Hants Williams, Ph.D, R.N.

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New York, US

Clinical nurse-scientist turned data specialist with 15 years of experience spanning health systems, research labs, academia, and digital-health start-ups. Co-created data products impacting 8M+ lives, raised $15M + in venture funding for two early-stage companies, provided statistical consultation for basic & applied research studies at multiple R1 academic research centers, built a talent pipeline of ≈300 graduate informatics students with 90% placed in analytics roles within six months, and saved $500k at Stony Brook through custom BI data solutions. Advisor to VC, PE, and non-profits on due diligence for data-driven health products.

CORE SKILLS

Science & Primary Research: Doctorally trained in quantitative, qualitative, and mixed-methods designs. PI/co-PI on federal, state, and foundation grants; 20 peer-reviewed papers (h-index 8, ~570 citations). IRB advisor on AI ethics; editorial-board member, *International Journal of AI in Healthcare*.

Traditional Statistics and Analytics: Descriptive and Inferential statistics with Python, R, and SAS; geospatial analysis with Python and ArcGIS; data triangulation and aggregation of open source data from federal and state repositories; visualization with Python, Tableau, PowerBI, Superset.

Applied Ai/ML: Design and deploy ML pipelines with *scikit-learn*; computer-vision models with OpenCV & YOLO; NLP services with *spaCy*; self-hosted SLMs for generative tasks. Execute GPU-intensive experiments in Hugging Face; currently adding Model Context Protocol (FastAPI + MCP) to core skillset.

Rapid Software Prototyping: Combination of Python and JavaScript for frontend & backend, Sqlite/MySQL or MongoDB for database. Containerize with Docker and deploy to self-hosted (Dokploy) or cloud (AWS, Azure, or GCP). CI/CD via GitHub Actions; IDE of choice: VS Code Insiders.

Healthcare Delivery Informatics: Licensed RN with chronic-disease management experience; power-user of Cerner and Epic. Build real-world–data pipelines from claims and warehouse sources that satisfy security (HIPAA/HITRUST) and interoperability (FHIR/HL7) standards.

Academic Leadership/Higher Education: Experienced in administrative leadership within public and private universities; skilled in strategic oversight of analytical research initiatives across multiple academic health departments, and developing revenue-generating analytics services and rigorous accredited curricula. Expertise in teaching and mentoring across educational levels from undergraduate through postdoctoral/residency training.

EDUCATION

Postdoctoral Fellowship in Pain Genetics 2015-2016
University of Maryland Baltimore, School of Nursing

PhD in Nursing Science, Quantitative 2011-2015
Duke University, School of Nursing

Baccalaureate of Nursing Science 2009-2011
San Francisco State University, School of Nursing

Bachelors of Science 2007-2009
Double major Psychology, Behavioral Science
San Jose State University

EMPLOYMENT

Academic Faculty, Stony Brook University (FTE) 2020 – present
Director of Scholarship, Innovation, and Analytics: 2024-present
Clinical Associate Professor: 2024-present, Schools of Medicine, Health Professions
Clinical Assistant Professor: 2020-2023, Schools of Medicine, Health Professions
Program Director Applied Health Informatics: 2020-2022, School of Health Professions

- Responsible for all research and scholarship activity across 13 departments, representing 100+ full time faculty and their research for the largest health school at Stony Brook University
- In year 1 reviewed and approved 15 external NIH, NSF, and private foundation grants applications that have successfully led to $2.6M dollars of funding for the school, along with overseeing 123 approved clinical and basic science studies.
- Saved $500k by internally developing a web service to auto-ingest publications, IRB protocols, and grants.
- Built a ETL pipeline for 12 new data sources for 25 Tableau dashboards, saving $50k annually.
- Implemented automated data-quality validation and analytical processes for accreditation and state compliance requests, reducing data errors by 25% and improving overall accuracy and timeliness.
- Trained 50+ faculty on advanced analytics tools (e.g., Tableau, Power BI), boosting internal analytical capability.
- Increased faculty grant proposals and peer-reviewed publications 10% for academic year 2024-2025.
- Administrative representee for faculty accomplishments and concerns to university executive research leadership.
- Guided 60+ data driven graduate capstone projects from concept to MVP.
- Created industry partnerships with 8 healthcare technology companies, facilitating direct student recruitment and collaborative interdisciplinary research opportunities.

Data Scientist, Options MD (Part-time, Contract) 2020 – 2023

- Contributed analytics insights and technical due diligence supporting achievement of strategic milestones that helped led to the company's acquisition in 2025.
- Built HIPAA-compliant data pipeline for internal clinical decision support (CDS) tool integrated with DrChrono EMR for psychiatrists, reducing clinician administrative task times by ~3 minutes per patient interaction.
- Enriched an NLP-driven symptom-trend scraping (*Patients Like Me* and *Reddit*) tool, analyzing over 500k posts to discover novel patterns related to symptom severity for treatment-resistant depression to assist care providers.

Data Scientist, National Health IT Collaborative for the Underserved (Contract) 2020 – 2024

- Architected a SDoH lakehouse ingesting 4B rows from 100k+ open datasets to allow geospatial tracking of underserved communities, aiding the strategic mission of the non-profit in prioritizing areas of greatest need.
- Conducted geospatial analysis of 6k patient records from partner Sonitas Health, integrating open-source datasets on public transit routes, traffic patterns, and residential locations to optimize placement of new community clinics. Analysis ensured strategic site selection, reducing patient drive times to <10 minutes or public transit commutes to <30 minutes.
- Developed 3 unique geospatial dashboards based on a subset of 5M semi-standardized data points across federal, state, and county levels that required triangulation and standardization to identify trends related to firearm-related incidents and exploration of cancer and COVID hotspots for strategic partnerships with state-level Departments of Health.

Director, Clinical Informatics and Operations at VirtualHealth (FTE) 2017 – 2020

- Led a seven-member pod for utilization analytics and care plans for 8M members across 15 states.
- Developed and managed empirically based patient-centered tools and clinical care pathways for the 13 most common chronic diseases identified by the CDC, which account for 90% of outpatient care management time.

- Contributed to the organization's positioning as a recognized industry leader, reflected through achieving multiple care management quality awards and certifications (e.g., NCQA accreditation, HITRUST certification).
- Grew and transformed company culture from 'tech' to '*patient focused'* aligning with the 3 P's of healthcare: patients, payers, and providers.

Data Scientist at Parsley Health (Part-time, contract) 2016 – 2024

- Created the Parsley Symptom Index (≥1M completions across 30+ states) a peer-reviewed validated assessment tool for assessing patient symptomology.
- Conducted cohort analyses that lead to 4 peer-reviewed publications, demonstrating statistically significant improvements in patient-reported outcomes, used in investor reporting and marketing campaigns.
- Co-architected the first outcomes data warehouse that originally supported 1k+ monthly encounters, and assisted with the $10M Series A raise.

Founder, at BioVirtua (Part-time) 2016 – 2020

- Raised $500k seed VC for 2-D pose-estimation tele-health products, and filed 2 provisional patents.
- Conducted extensive usability and validation studies across 200+ participants, demonstrating product effectiveness and user acceptance.
- Engineering team acquired by Vori Health in 2020.

Post-doc Researcher at the University of Maryland, School of Nursing 2015 – 2016

- Applied mRNA/next-gen sequencing with R to map over 200 genetic pain pathways, identifying 15 biomarkers of interest that contributed to an existing $3M R01 NIH grant.

Research Nurse at Duke University Health System 2011 – 2015

- Led 2 clinical trials in the rare disease of sickle-cell disease (SCD), manually recruiting ~50 complex patients with a retention rate >80%
- Created and delivered 3 care provider training modules on pain-contracts and SCD pain crisis management, educating over 200 healthcare professionals.
- Used *SAS* for time series modeling and *Atlas* for qualitative analysis.

Research Assistant at Stanford University 2009 – 2011

- Ran data collection for 100+ individual EEG and GSR sessions across multiple experimental psychology protocols.
- Co-authored high-impact publication on emotion regulation in the journal of *Psychological Sciences* (IF 10.172)
- Analyzed fMRI data with custom R scripts for exploring to emotion regulation neurological mechanisms.

PAID ADVISORY ROLES

Yosi Health – Data advisor 2022 – **present**
https://yosi.health/

United Generations Capital – Digital health investments 2021 **– present**
https://www.unitedgenerationscapital.com/

Nex3 – Startup Advisor 2018 **– present**
https://www.nex3.com/

PulseData – Data advisor 2017 – 2018
https://pulsedata.io/

PUBLICATIONS – Peer Reviewed

Published

Williams, H. A Descriptive Analysis of DCAT-Compliant Data Catalogs: Characteristics and Themes Across Federal, State, County, City, and Territorial Entities in the United States (2024). Data Intelligence. https://doi.org/10.3724/2096-7004.di.2024.0006

Williams, H., Steinberg, S., Leon, K., Vingum, R., Hu, M., Berzin, R., Hagg, H., Hanaway, P. (2024). The External Validity of the Parsley Symptom Index ePROM Instrument in Patients with Multiple Chronic Diseases: A Retrospecive Cohort Study. *JMIR formative research.*

Williams, H., Steinberg, S., Vingum, R., Leon, K., Céspedes, E., Berzin, R., & Hagg, H. (2023). Parsley Health: Feasibility and acceptability of a large-scale holistic telehealth program for chronic disease care. *Frontiers in digital health*, *5*, 1008574. https://doi.org/10.3389/fdgth.2023.1008574

Williams, H., Steinberg, S., Leon, K., O'Shea, C., Berzin, R., & Hagg, H. (2022). Validity of the Parsley Symptom Index-an Electronic Patient-Reported Outcomes Measure Designed for Telehealth: Prospective Cohort Study. *JMIR formative research*, *6*(11), e40063. https://doi.org/10.2196/40063

Williams, H., Steinberg, S., & Berzin, R. (2021). The Development of a Digital Patient-Reported Outcome Measurement for Adults With Chronic Disease (The Parsley Symptom Index): Prospective Cohort Study. *JMIR formative research*, *5*(6), e29122. https://doi.org/10.2196/29122

Bailey, D. E., Muir, A. J., Adams, J. A., Thygeson, N. M., **Williams**, H., Cary, M. P., and Anderson, R. A. Clinical Encounters and Treatment Initiation for Chronic Hepatitis C Patients: Applications of Adaptive Leadership Framework for Chronic Illness. (2019, Sage Open, DOI 10.1177/2158244018824461)

A. Patel, H. **Williams,** M. R. Baer, A. B. Zimrin, J. Y. Law. Decreased Bleeding Incidence With Direct Oral Anticoagulants Compared to Vitamin K Antagonist and Low-Molecular-Weight Heparin in Patients With Sickle Cell Disease and Venous Thromboembolism**.** (2019, Acta Haematol 142(4), 233-238; PMID: 31108496)

Simmons, L. A., **Williams**, H., Silva, S., Keefe, F., & Tanabe, P. (2019). Acceptability and feasibility of a mindfulness-based intervention for pain catastrophizing among persons with sickle cell disease. Pain Management Nursing. (NIHMS1512965, Publ.ID: YJPMN849)

H **Williams**, S Susan, D Cline, C Freiermuth, P Tanabe (2018). Social and Behavioral Factors in Sickle Cell Disease: Employment Predicts Decreased Health Care Utilization. Journal for Poor and Underserved (29).

A Patel, H **Williams,** M R Baer, A B Zimrin, J Y Law (2017). Use of direct oral anticoagulants in patients with sickle cell disease and venous thromboelism is associated with a significant decrease in incidence of bleeding. Blood (130), 978.

H **Williams**, S Susan, LA Simmons, P Tanabe (2017). A Telephonic Mindfulness-Based Intervention for Persons with Sickle Cell Disease: Study Protocol for a Randomized Controlled Trial. Trials 18 (218)

H **Williams** (2017). The Unspoken Importance of the Nurse in the 2016 National Pain Strategy Pain Management Nursing 18 (3), pp. 123-128

H **Williams** (2016) Non-Pharmacological Approaches for Pain Management in Sickle Cell Disease: Development of a Mindfulness-Based Intervention. Proquest Publishing, 2016. 10137426.

Williams, H., and Tanabe, P. (2015). Sickle Cell Disease: A Review of Non-Pharmacological Approaches for Pain. Journal of Pain and Symptom Management. DOI: 10.1016/j.jpainsymman.2015.10.017.

Williams, H., Simmons, L. A., and Tanabe, P. (2015). Mindfulness-based Stress Reduction in Advanced Nursing Practice: A Non-pharmacologic Approach to Health Promotion, Chronic Disease Management, and Symptom Control. Journal of Holistic Nursing. DOI 10.1177/0898010115569349 [Epub ahead of print]

H **Williams**, P Tanabe (2015). Implementation of a social worker screening process to explore unmet psychological and social needs for adults with sickle cell disease in the emergency department. The Journal of Pain 16 (4), S108.

Blechert, J., Wilhelm, F.H., **Williams**, H., Braams, B.R., Jou, J., & Gross, J.J. (2015). Reappraisal facilitates extinction in healthy and socially anxious individuals. Journal of Behavior Therapy & Experimental Psychiatry, 46, 141-150.

H **Williams**, C Freirmuth, D Cline, J Johnston, C Rutherford, V Thornton (2014). Behavioral health needs of patients with Sickle Cell Disease in the emergency department. The Journal of Pain 15 (4), S18

Blechert, J., Sheppes, G., Di Tella, C., **Williams**, H., & Gross, J. J. (2012). See What You Think: Reappraisal Modulates Behavioral and Neural Responses to Social Stimuli. Psychological Science, 23(4), 346-53.

Submitted, Awaiting Reviewer Scores

None

Resubmitting

Timko-Swaim, L., …**Williams**, H. The Virtual Interview and Physician Assistant Program Diversity Pre versus Post COVID-19. Journal of Physician Assistant Education. (Revised and resubmit, awaiting 2nd round or reviewer comments post-changes).

Williams, H., Cagliostro, V., and Greene, G. (2025). Comparative Analysis of the Reactive Strength Index – Modified (RSI-mod) between Football and Non-Football NCAA Male Athletes. *First submitted to the Journal of Strength and Conditioning Research, now submitting to The International Journal of Strength and Conditioning.*

Williams, H. and Herrick, B. Remote Closed-Source Large Language Models (LLMs) vs. Local Open Source Small Language Models (SLMs): An Implementation-Focused Review and Local Deployment Tutorial. *First submitted to Journal American Medical Informatics Association, next submission to the International Journal of Medical Informatics.*

In-Draft

Williams, H. et al. (submission 2025-2026). Benchmarking Generative AI for Healthcare Ethics: A Comparative Analysis of Four Models Across Five Clinical Ethics Scenarios. Journal TBD.

Williams, H. et al. (submission 2025-2026). Dynamic Threshold Modeling for Inter-Limb Symmetry-Based Injury Risk Prediction in U.S. Collegiate Athletes: A Novel Machine Learning Approach. Journal TBD.

Paloka, R.….Williams, H. (submission 2025-2026). Geographic Disparity in Private Equity Hospital Ownership: Divergent Financial and Quality Impacts on Rural vs. Urban Radiology Services. Planned submission to The Journal for Poor and Underserved.

COPYRIGHTS

Parsley Symptom Index (author) 2018
Copyright obtained – August 24, 2018; Registration Number: TXu 2-114-289

PATENT APPLICATIONS

Holographic Assessment and Clinical Recommendation Tool for Acute Healthcare 2017
Patent Issuer & Number: 62576145

Augmented Reality Telemedicine Platform 2016
Patent Issuer & Number: 62414126

FUNDING

SUNY state award for innovation 2023
The purpose of this grant was to develop the Cloud LeArning Studio (CLAS) platform for online learning by using AI to create digital avatars of educators, significantly reducing the time and resources required for creating digital content. This tools goal is to enable educators to easily create and integrate content into various learning management systems without needing prior knowledge of machine learning or AI. This innovative solution addresses the growing demand for online and micro-courses, magnified by the COVID-19 pandemic, and is expected to positively impact the academic community within the SUNY system and beyond. It offers scalable, engaging content and potential revenue opportunities through subscriptions, licensing, and digital marketing.

AWS Health Equity Grant 2022
In collaboration with NHIT, was awarded $86,000 of cloud credits for the development of an app-based health navigation tool that utilizes public Social Determinant of Health data to proactively connect individuals from at-risk communities with relevant health services and resources. This innovative tool aimed to mitigate disparities in healthcare access and improve health outcomes for underserved populations by leveraging data to create equitable and inclusive systems of care.

Start Up Bootcamp – Venture Capital Investment 2018
Venture capital provided by Start Up Bootcamp (a Miami based accelerator backed by Children's Miami Hospital) for my company BioVirtua. The purpose of this investment was to accelerate commercialization of the BioVirtua platform, and to initiate a new implementation project at Nicholas Children's Hospital in Miami, FL.

Nex3 –Venture Capital Investment 2017
Venture capital provided by Nex3 (a Silicon Valley accelerator backed by Sway Ventures) for my company BioVirtua. The purpose of this investment was to fund initial growth of the company, the recruitment and on-boarding of additional engineers, and to acquire the hardware necessary to initiate multiple research pilots across the country of the BioVirtua platform within small business and academic medical research centers.

National Institute of Health/NINR R01 Diversity Supplement Awardee (R01NR015472) 2016

The specific goals for this supplement award were to: 1) gain research design and statistical knowledge to independently formulate, analyze, and interpret biological data, 2) learn new theories and biological mechanisms related to chronic pain, 3) enhance knowledge of two chronic pain disorders - Irritable Bowel Syndrome (IBS) and temporomandibular disease (TMD), 4) lead to the development a future NIH-NINR extramural grant application.

National Institute of Health/NINR F31 Fellow – 2013
A Mindfulness-based Intervention For Pain Catastrophizing In Sickle Cell Disease (F31NR014954-01)

The purpose of this award was to fund my pre-doctoral education and research, and to develop a novel non-pharmacological way of managing chronic pain in persons living with Sickle Cell Disease. This award allowed me to conduct and manage a clinical trial (see link below) to test the feasibility, accessibility, and effects of a mindfulness-based stress reduction program (MBSR) on reducing pain catastrophizing in persons with Sickle Cell Disease and chronic pain. At this time, the program originally developed during my dissertation may be applied state-wide in a new initiate within North Carolina funded by a U01.
https://clinicaltrials.gov/ct2/show/NCT02394587

HONORS AND AWARDS

American Nursing Informatics Association - Appreciation 2023
Certificate of Appreciation – ANIA NY Tristate 2023 Summer Symposium

Poster Presentation Winner – 2023 Annual International Conference (AIC) for the Institute of Functional Medicine. 2023
Titled: Parsley Health: Feasibility and acceptability of a large-scale holistic telehealth program for chronic disease care**.** Orlando, Florida

Stony Brook University Teaching Award, Recognition 2022

M.I.T Hacking Medicine + Mount Sinai Rehabilitation Medicine - Top 10 2018
Selected as one of 10 healthcare companies to pitch for funding to compete for a fully funded clinical trial at the Rehabilitation Medicine: The Icahn School of Medicine at Mount Sinai Hospital, combined with the resources and support of the world's most prestigious healthcare innovation group, MIT Hacking Medicine.

NASA iTech Innovation Challenge - Top 10 Winner 2017
Selected as one of three healthcare companies that addresses important problems here on earth, that also holds great potential to overcome critical technological hurdles in future space exploration.

Top 50 Global Startups, Startup Grind Global Conference 2017
Selected as one of the top 50 companies from 98 countries to present to a global audience at Google in Sunnyvale, CA.

Porsche Automotive Innovation Day 2017
Selected as one of the only healthcare companies from the United States to present at Porsche headquarters in Stuttgart, Germany

Partners Connected Health – iTech Winner 2017
Selected from a group of 150 companies, my company BioVirtua won the Health Tech Standout! Competition Challenge, and presented our platform to the connected health industry partners

Top 20 Global Startups, Silicon Valley Innovation and Entrepreneurship Forum, Beijing 2016
Won roundtrip tickets to Beijing, China to present to state officials and healthcare professionals on the opportunity of emerging technologies to solve problems related to rural telehealth, as well as emerging remote healthcare solutions

Junior Investigator Award – American Pain Society 2014
Psychosocial Research Shared Interest Group of the American Pain Society

Dean's Scholar - San José State University College of Social Sciences 2009

Archbishop Oscar Romero Award for Social Justice 2008

SELECTED PRESENTATIONS

Williams, H. SUNY IITG Demo Day: Presentation of a Deep Fake Platform for Educators. University Buffalo, SUNY. 2024

Williams, H. Next-generation Sequencing (NSG) in Biomedical Research. Guest lecture for HBM 522 Biology of Cancer. Stony Brook, SUNY. 2024

Williams, H. Health Informatics 101: New Technology and Opportunities. Invited lecture for Inspira Health, New Jersey. 2024

Williams, H. and Lajmi, R. Introduction Artificial Intelligence: Part 2 Spring Lecture Series, School of Health Professions, Stony Brook 2024

Williams, H. and Lajmi, R. Introduction Artificial Intelligence: Part 1 Spring Lecture Series, School of Health Professions, Stony Brook 2024

Williams, H. The Changing Landscape of SDoH Data: Overview of Key Problems, Policies, and Solutions Going Into 2024. School of Health Professions, Stony Brook 2024

Williams, H. Using Python for Analyzing Open-source Public Health Datasets. Program in Public Health, Stony Brook. 2023

Williams, H. The Change Landscape of Social Determinants of health. American Nursing Informatics Association: ANIA NY TriState Chapter – Summer Symposium. Virtual. 2023

Williams, H. Bringing Data to Life: Biomedical Informatics Boot Camp. School of Medicine, Stony Brook University. 2023

Williams**,** H. Healthcare and Data Literacy. Department of Speech Language Pathology, Stony Brook University. 2023

Williams, H. Utilization of Open-Source Technology to Promote Access to De-Identified Public Health Data. School of Health Professions Research Day. Stony Brook University, NY. 2022

Williams**,** H. Healthcare and Data Literacy. Department of Speech Language Pathology, Stony Brook University. 2022

Williams, H. The National Health IT Collaborative Fusion Center: Learnings and Next Steps. HIMSS Global Health Conference & Exhibition. Orlando, FL. 2022

Williams, H. Driving insights using modern data architectures: with National Health IT Collaborative for the Underserved and 2022

Stony Brook University. Amazon Web Services Summit, Washington DC.

Williams, H. SDoH Data Interoperability and Sharing. 2021
HIMSS Global Health Conference & Exhibition. Las Vegas, NV.

Williams, H. Panel Discussion on Digital Health Trends Among 2020
Medicaid Recipients. Medicaid Innovations Forum. Orlando, FL.

Williams, H. Interoperability in North Carolina: Managed Medicaid Renewal. 2019
Medicaid Enterprise Systems Conference (MESC). Chicago, IL.

Williams, H. Social Determinants of Health in Aging Populations. 2019
MedTech A4M, Las Vegas, NV.

Williams, H. Disruptive Technology and Innovation. 2019
Credit Suisse – Healthcare Investment Team. Chicago, IL.

Williams, H. Social Determinants of Health within Care Management Technology. 2019
EXPO health. Boston, MA.

Williams, H. Let's Get Personal: Analytics for Patient Evaluation. 2019
IoT Evolution Expo. Fort Lauderdale, FL.

Williams, H. The Future of Digital Health: What Early Stage Startups 2019
Need to Know. JPM Health Conference / Nex3 round table. San Francisco, CA.

Williams, H. The Fundamental of Translational Pain Medicine: 2017
Integrating Science with Clinical Care. American Pain Society (2017)
National Conference, Pittsburg, PA

Williams, H. Medicaid Recipient Transportation: Preliminarily Analysis of Next Level 2018
Health Pre-Arranged Transportation Service Utilization
VirtualHealth, New York, NY.

Williams, H. Aging in Place: IoT Technology in the Home Environment. 2018
Aging in Place - TX Regional Counsel, Corpus Christi, TX.

Williams, H. Medicare and Medicaid: Future Trends in a Changing Landscape. 2018
VirtualHealth, New York, NY.

Williams, H. BioVirtua: Non-invasive Human Movement Data Acquisition. 2018
Mount Sinai School of Medicine, New York, NY.

Williams, H. Nurse Entrepreneurs: How to translate big data into 2017
clinical change. Northeastern University, Boston, MA

Williams, H. Capturing Human Movement: Opportunities and Challenges in the 2017
Private Sector. Booz-Allen-Hamilton, Washington DC

Williams, H. Transforming Telehealth: Remote quantification and 2017
assessment of human movement (Live demonstration). Partners
Connected Health Conference, Boston, MA

Williams, H. Augmented Reality and Telemedicine: Utilization of off-the-shelf technology to leapfrog patient-provider remote communication. Nex3 Accelerator, San Francisco, CA 2017

Williams, H. Virtual and Augmented Reality Interventions for Chronic Pain. University of Maryland Baltimore, School of Dentistry 2016

Williams, H. A non-pharmacological research program for Sickle Cell Disease Management. Johns Hopkins University, Department of Hematology 2016

Williams, H. Behavioral Health Needs and Hospital Utilization in Persons with Sickle Cell Disease. American Pain Society, Session Sound Byte Lecture at Annual 2015 Conference, Palm Springs, CA. 2015

Williams, H. Mindfulness-based Meditation for Chronic Pain. Duke GradX Talks, Duke University, NC. 2014

Williams, H. Mindfulness-based Stress Reduction for Persons with Sickle Cell Disease Experiencing Chronic Pain. Panel discussion at the Foundation for Sickle Cell Disease Research, Miami, FL. 2014

Williams, H. Behavioral Health Needs of Patients with Sickle Cell Disease in the Emergency Department. Panel discussion at the annual American Pain Society conference (presented at SIG groups – Psychosocial, Nursing) Tampa, FL. 2014

Williams, H. Mindfulness-based Stress Reduction for Persons with Sickle Cell Disease Experiencing Chronic Pain. Panel discussion at the Foundation for Sickle Cell Disease Research, Miami, FL. 2014

MEDIA and PRESS

Beckers Hospital Review, 40 Changes to Earn a Better Result in Health IT 2024
https://www.beckershospitalreview.com/uncategorized/40-changes-to-earn-a-better-result-per-health-it-and-finance-leaders/

Oracle Academy Member Story, Teaching the Cloud with Oracle 2024
https://academy.oracle.com/en/about-success-spotlight-williams.html

Stony Brook University, Inclusivity Community Based Operations 2024
https://news.stonybrook.edu/university/stony-brook-champions-inclusive-community-based-opportunities-at-annual-conference/

Brook University - Health Data Visualization Course 2023
https://www.stonybrook.edu/commcms/cce/for-individuals/analytics/healthcare-data-visualization

Yosi Health, Yosi Health Welcomes Dr. Hants Williams to Advisory Board 2022
https://yosi.health/yosi-health-welcomes-dr-hants-williams-to-advisory-board/

American Telehealth Association, ATA EDGE Policy Conference Tackles The Latest State and Federal Telehealth Policies 2021
https://www.americantelemed.org/press-releases/ata-edge-policy-conference-tackles-the-latest-state-and-federal-telehealth-policies-post-election-perspectives-and-next-steps-for-virtual-care/

Amazon Web Services, Using the cloud to better understand and address social determinants of health 2021
https://aws.amazon.com/blogs/publicsector/using-cloud-better-understand-address-social-determinants-health/

NASA, iTech Finalist, Interplanetary Telehealth: Remove Sequencing of Human Movement; https://www.youtube.com/watch?v=iihmEKOkqR8 2018

Health Information Management Society, Customer Relationship Management Technology and Improving the Patient Experience 2018
https://gkc.himss.org/resources/customer-relationship-management-technology-and-improving-patient-experience

Nex3, Selects Ai Companies for Fall 2017 Incubator Program 2017
https://www.prnewswire.com/news-releases/nex-cubed-selects-artificial-intelligence-machine-learning-and-frontier-tech-companies-for-fall-2017-incubator-program-300541394.html

Duke University 2017
https://nursing.duke.edu/news/phd-alumni-williams-and-silva-simmons-and-tanabe-publish-article-trials

American Pain Society, Meet the Early Career Advisory Group 2016
https://americanpainsociety.org/education/e-news/2016/november/society

TEACHING

BMI 520: Data Analytics and Software Stacks 2023 to Present
Stony Brook University, School of Medicine / Secondary instructor
This course will cover cutting-edge data analytic applications, infrastructure, and analytic methods. Students will have the opportunity to analyze real (de-identified) healthcare datasets and spatio-temporal and molecular datasets drawn from cancer research. Each class session will include discussions of applications, infrastructure, and algorithms. Students will present papers, and there will also be guest lectures from visiting experts. Students will attend lectures, present and critique papers, and work with a team of students on a substantial project throughout the semester. Students are expected to demonstrate a high level of independence, critical thinking, and initiative

HHA 504-Update: Cloud Computing for Healthcare. 2023 to Present
Stony Brook University, School of Health Professions / Primary instructor
This course will introduce open source cloud computing to a general audience along with the skills necessary to securely deploy applications and websites to the cloud. In this class, students will have the opportunity to learn about a wide variety of topics related to cloud computing that include the command line, Linux operating systems, open source software development, setting up servers and Linux, Apache, MySQL, and PHP (LAMP) stacks via docker, using GitHub, best practices for security, and the Domain Name System. No prior developer experience is necessary.

HHA 507-Update: Data Science for Healthcare: Python and R. 2023 to Present
Stony Brook University, School of Health Professions / Primary instructor
This course introduces the student to the emerging field of data science through the presentation of basic math and statistics principles, an introduction to the computer tools and software commonly used to perform the data analytics, and a general overview of the machine learning techniques commonly applied to datasets for knowledge discovery within health care. The students will identify a dataset for a final project that will require them to perform preparation, cleaning, simple visualization, and analysis of the data with such tools as Python and R. Understanding the varied nature of data, their acquisition and preliminary analysis provides the requisite skills to succeed in further study and application of the data science field within healthcare.

HHA 462: Developing Health Information Systems. 2020 to Present
Stony Brook University, School of Health Professions / Primary instructor
Introduces students to fundamental hardware and software concepts, operating systems, GUI or desktop environments and system development life cycles. Reviews Windows applications such as spreadsheet, database, forms, queries and reports. Restricted to students approved for appropriate senior year track in the Health Science major.

HHA 504: Database Design and Development for Health Informatics Professionals. 2020 to 2023
Stony Brook University, School of Health Professions / Primary instructor
This course covers relational database theory and development methodology. Emphasis on the progression through a health information systems development life cycle through the design, development, deployment, administration, testing, evaluation, and maintenance of a database. Introduces students to relational query languages (i.e. SQL).

HHA 506: Research Design and Methodology for the Health Informatics Professionals. 2020 to Present
Stony Brook University, School of Health Professions / Primary instructor
This hybrid course provides an in-depth overview of quantitative, qualitative, and mixed-methods research designs and methodologies. The student will analyze, evaluate and practice the philosophical foundations, characteristics, strengths, and limitations of quantitative, qualitative, and mixed methods research designs and methodologies most appropriate to the practice of health informatics. Emphasis on critical review and techniques of applied research and evaluation.

HHA 507: Statistics for Health Informatics Professionals. 2020 to 2023
Stony Brook University, School of Health Professions / Primary instructor
Quantitative data analysis techniques utilized in patient safety research are explored. Topics include descriptive, inferential, and correlational statistics. Students learn to use available computer programs to conduct a variety of descriptive, inferential, and correlational statistical tests.

HHA 590: Quality Improvement Project I 2020 to Present
Stony Brook University, School of Health Professions / Primary instructor
This is the first course in a two-part sequence. Under faculty supervision, students are given the opportunity to demonstrate integration, synthesis, and application of their knowledge and skills by identifying a real-world health informatics problem and researching best practices that can be utilized to create a solution. A majority of the course work will be completed independently.

HHA 592: Quality Improvement Project II 2020 to Present
Stony Brook University, School of Health Professions / Primary instructor
This is the second course in a two-part sequence designed to give the student the opportunity to demonstrate mastery of the knowledge and skills acquired in the program. Students will build upon the work in HHA 590 to design a health informatics solution for a real-world problem. Under faculty mentor-ship, students will work independently, but will be required to meet synchronously in small groups during the last week of the semester for presentations. Students are also required to engage in a rigorous peer-review of other students' progress throughout the semester.

N569: Understanding Sickle Cell Disease: A Biopsychosocial Approach 2014
Duke University, School of Nursing / TA
This course provides students with an overview of sickle cell disease, including its genetics, epidemiology, pathophysiology, medical complications, psychosocial challenges, and health service utilization from a global perspective. Students will engage in an exploration of the role of discrimination and stigmatization as they affect people with sickle cell disease, as well as differences in how the disease is viewed and managed in various countries.

N656: Quantitative Methods for Evaluating Health Care Practices 2013 to 2014
Duke University, School of Nursing / TA
Enables students to evaluate and interpret findings from quantitative studies. Emphasis is on research design and statistical methods used to generate and assess evidence for nursing practice. The course is designed for students in the Doctor of Nursing Practice (DNP) program. Students outside of the DNP program should obtain the permission of the instructor to register for the course

OPEN-SOURCE & CLOSED ONLINE EDUCATIONAL CONTENT

Book, Data Science for Health Informaticists (in-progress) 2024 – Present
https://book.datascience.appliedhealthinformatics.com/

Care Provider Training, New York Department of Health – Telehealth training 2023
Modules; https://nytelehealth.mcdph.org/stony-brook.php

Short Video Series, Healthcare Data Visualization for Stony Brook University, 2022
Center for Corporate Education
https://www.stonybrook.edu/commcms/cce/for-individuals/analytics/healthcare-data-visualization

Short Video Series, High ED Utilization, Opioid Addiction, and management 2012 – 2013
of Acute Chest Syndrome in persons with Sickle Cell Disease

https://youtu.be/9xJ4VwtBtRw
https://youtu.be/urmg_fJ289c
http://sickleemergency.duke.edu/content/high-ed-utilization-and-perceptions-opioid-addiction

MENTORED

Amin Shirangi, Current PhD Student - Department of Technology, AI & Society — 2024 – Present
Dissertation Committee; Stony Brook University

Peter Saenz, Current PhD Student - Department of Technology, AI & Society — 2023 – Present
Dissertation Committee; Stony Brook University

Saira Khwaja, Masters Student – Applied Health Informatics — 2022 – 2023
Now Operations Associate at Tempus Labs

Collin Armstrong, Masters Student – Applied Health Informatics — 2021 – 2022
Now Data Engineer at Toyota, North America

Amy Gilson, Clinical Operations Associate at Virtual Health, — 2018 – 2020
Now Senior Implementation Consultant and Benchling

Emiri Aoki, Product Design at BioVirtua, — 2017 – 2018
Now Head of Designer at Kensho Technologies

Abrar Haque, Business Dev. at BioVirtua, — 2016 – 2018
Now Investor at Adjuvant Capital

Irene Gutterman, MSN - University of Maryland Medical Center — 2016 – 2020
Now PhD student at University of Virginia

Dalmacio Dennis Flores, III – PhD Student, Duke University School of Nursing — 2013 – 2016
Now Associate Professor at the University of Pennsylvania

Tara Mann, PhD - PhD student, Duke University School of Nursing — 2013 – 2016
Now Head of Clinical Affairs at restor3d

LEADERSHIP, COMMITTEE EXPERIENCE

Corporate Engagement, Research - Committee — 2025 – Present
Stony Brook University

Director of Scholarship, Innovation, and Analytics — 2024 – Present
Stony Brook University

Editorial Board — 2023 – Present
International Journal of Artificial Intelligence in Healthcare

Presidential Search - Committee — 2023 – 2024
Stony Brook University

Institutional Review Board, Artificial Intelligence Study Reviewer — 2022 - Present
Stony Brook University

Department Chair, Applied Health Informatics 2020 - 2022
Stony Brook University

Early Career Advisory Board 2015 – 2019
American Pain Society, National Pain Policy Committee

Interoperability & Health Information Exchange – Committee 2018 – 2020
Health Information and Management Systems Society (HIMSS)

Director of Operations 2013 - 2014
Duke University, Graduate Student Countil

Research Advisory Board 2012 – 2015
Duke University, School of Nursing

PROFESSIONAL ASSOCIATIONS

American Medical Informatics Association	2020 - Present
Healthcare Information and Management Systems Society (HIMSS)	2017-Present
American Academy of Pain Medicine (AAPM)	2016-2020
Annals of Behavioral Medicine	2013-2015
American Pain Society (APS)	2012-2019
American Nursing Association (ANA)	2011-Present

CERTIFICATIONS

Registered Nurse

New York License #943347	2024 – Present
California License #800579	2011 – Present

Public Health Nurse 2011 - Present
California License #81145

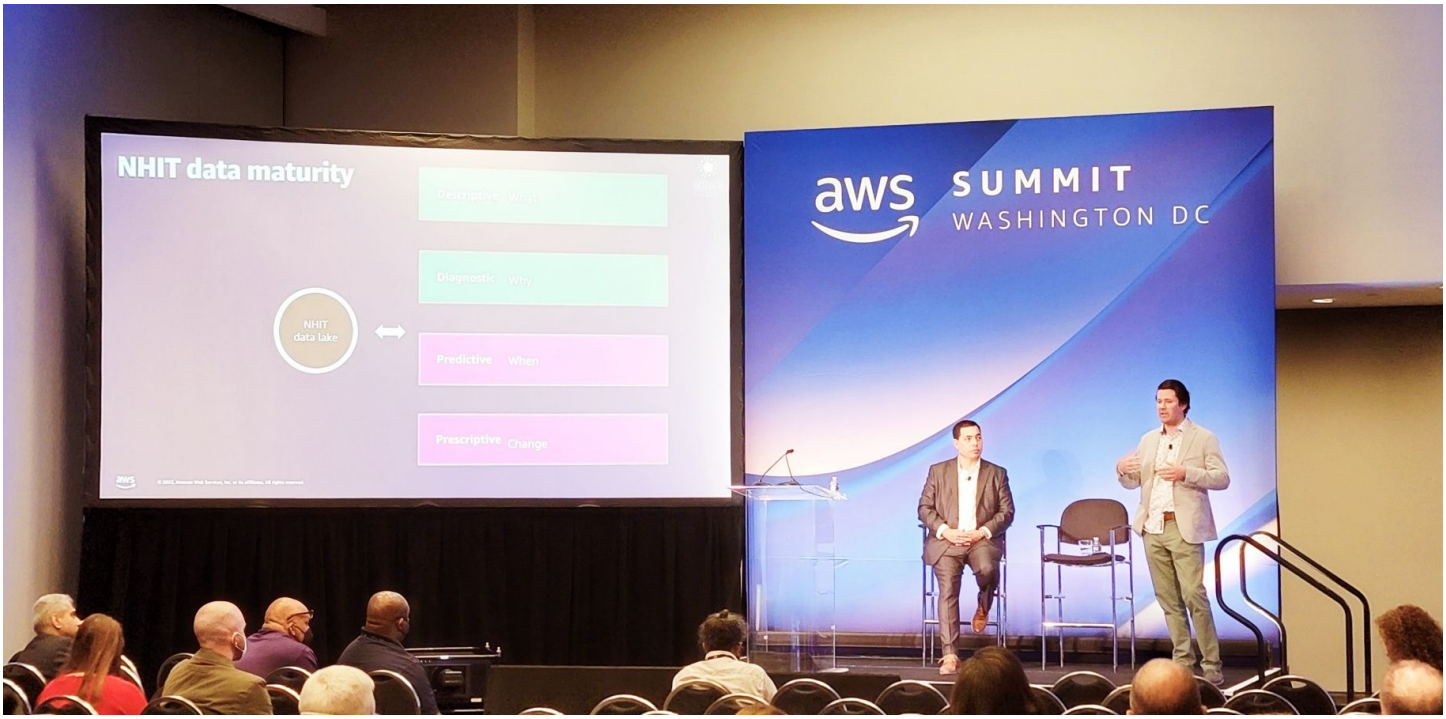
DATA PRODUCTS

PRODUCT	CLIENT	TECH STACK
[Ai Focused] *Digital Cloner* - for creating life-like digital avatars for training purposes; Digital Cloning of Human (voice, face); Github link	State University of New York	JavaScript, Python (FastAPI, Celery, Redis, Pandas, Scikit-Learn, OpenCV, Audio2Head, TTS), Traefik, AWS (batch, s3, ec2), Docker, GCP (firebase)
[Data Focused] FHIR-based Cancer Brain Registry – a modern FHIR-first patient cancer registry, with a focus on both FHIR complaint ingress and egress of structured health data for researchers, clinicians, and patients; Github link	University of Virginia (UVA)	Javascript and Python
[Data Focused] *Hospital Auditor Software* – for ingesting claims data, and providing a GUI for auditor team to review Medicare related claims prospectively and retrospectively	Stony Brook University Hospital	C-sharp, Python, MS-SQL, Azure

[private repo – request temp access]		
[Data Focused] *Athletics* Department Data Aggregator – for ingesting physiological data from GPS devices along with pressure plates for measuring athletic performance across 13 different [private repo – request temp access]	Stony Brook University Athletics Department	Python, Azure
[Data Focused] SDoH-related healthcare resource mapping for Long Island Community; **Github link**:	Stony Brook Medicine;	Flask, MongoDB, GCP – Cloud Run;
[Data Focused] API for Retrieving Patient Success Data on Smoking Cessation for NY State; **Github link**: [private repo - request temp access]	New York State; Users: Hospital Systems in NY state	Flask, Azure SQL, GCP Cloud Run, Celery, Azure VM, Docker, Swagger
[Data Focused] Geospatial dashboard, admin dashboard (2022); **Github link**: [private repo – request temp access]//	New York State Digital Equity Network; users: community health workers, residents in NY state;	Vercel, Prisma (MySQL), JavaScript (NextJS), Python (FastAPI), ArcGIS, Traefik
[Data Focused] Data Discover Tool (2021); data aggregator for open source state/federal datasets; **Github link**: [private repo – request temp access]	National Health IT for the Underserved	AWS (lambda, EC2, S3, Airflow (MWAA), DynamoDB), JavaScript (NextJS, Meili Search), Python, Docker;
[Data Focused] No-show prediction dashboard (2020); https://yosihealth.com	Yosi Health	AWS (Sagemaker, S3), MySQL, Python (AutoML, MLJar), Apache Superset

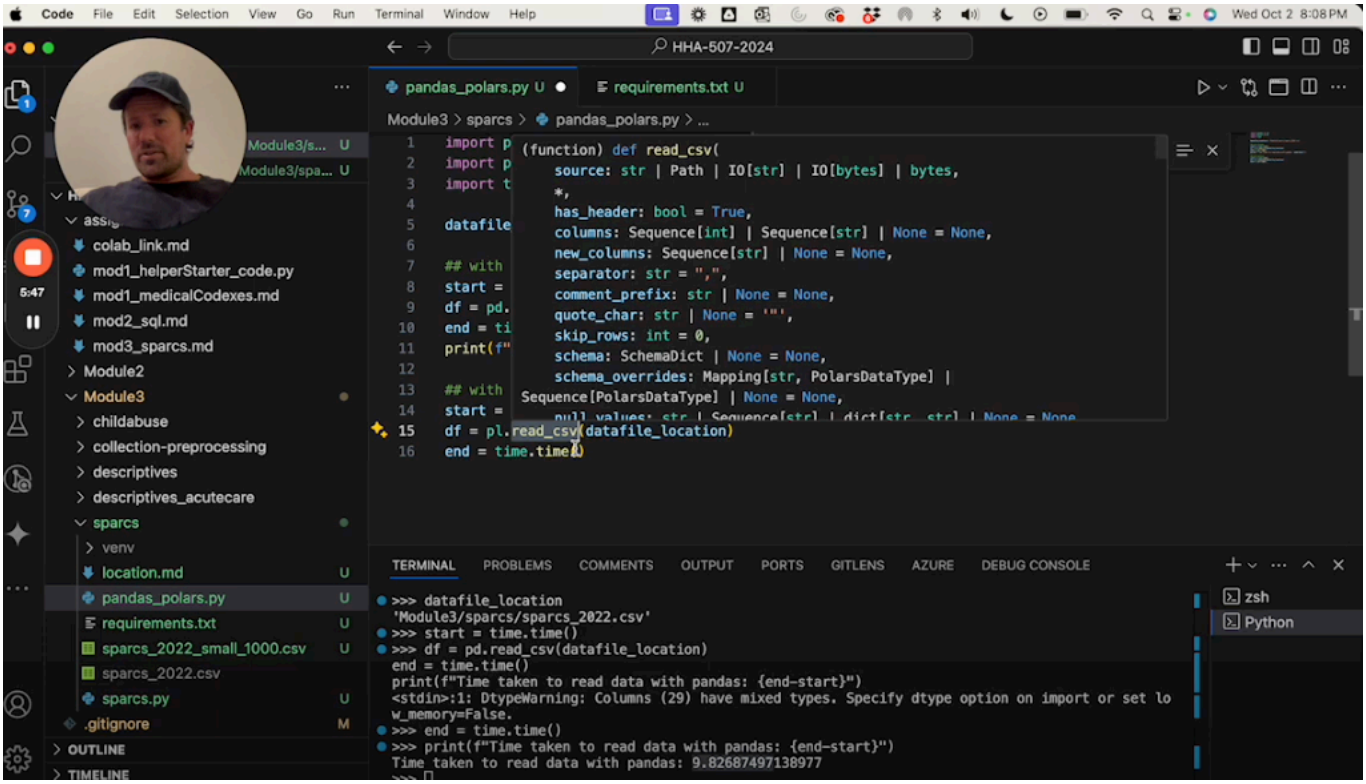
MEDIA EXAMPLES

Amazon Web Services, Washington DC Summit, 2022



NASA, iTech Competition, 2018
https://www.youtube.com/watch?v=iihmEKOkqR8

Tutorial, Loading Big Data Fast – Differences between Pandas and Polars – 2024
https://www.youtube.com/watch?v=YoarGo3DNz4



School of Medicine, Stony Brook University – Boot Camp Day, 2023
https://www.youtube.com/watch?v=aCGiYgCIcgQ