HIEU (HUGH) NGUYEN

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EDUCATION

JOHNS HOPKINS UNIVERSITY, School of Medicine and School of Engineering **Baltimore, MD**

Doctor of Philosophy, Biomedical Engineering – Data Science track *Expected May 2022*

- Dissertation Topic: Machine Learning-Driven Methods for Time-to-Event Analysis with Integration of Longitudinal Data and Image Data with an Application on Cardiovascular Disease

Master of Science, Biomedical Engineering *May 2019*

- Relevant Projects: Automatic Recognition and Classification of Breast Cancer using Breast X-ray Images, Statistical Shape Modeling using MRI Brain Scan Images
- Relevant Coursework: Deep Learning, Machine Learning, Medical Imaging Analysis, Precision Medicine, Methods in Biostatistics, Epidemiologic Methods, Anatomy, Cardiac Electrophysiology, Computational Fluid Dynamics

TRINITY COLLEGE **Hartford, CT**

Bachelor of Science, Mechanical Engineering, *Magna Cum Laude, Phi Beta Kappa, GPA 3.89* *May 2017*

- President's Fellow of Engineering – The highest honor for an Engineering-major student; Full-ride Scholarship

EXPERIENCE

APPLE INC. **Cupertino, CA**

Data Scientist Co-op – Health Technologies Team *Jun 2021 – Dec 2021*

- Improving user health and fitness experience via researching and analyzing user behavioral patterns ("phenotypes") using big real-world wearable tracking data collected from the Apple Watch and the Apple Health app, leveraging methods in statistical inference, clustering, causal inference, and time-series analysis
- The work is split between research for scientific discovery and for product shipment of future software features in Apple devices

PERTHERA INC. **Boston, MA**

Biomedical Data Scientist Intern *May 2020 – Dec 2020*

- Build and deploy the company's first-ever outcome prediction for treatment response in patients with pancreatic cancer, utilizing ML and statistics on real-world evidence data
- Develop the next generation of smart literature recommendation system that recommends the most relevant papers and abstracts to oncologists from a pool of 48,000+ Pubmed oncology papers and ASCO abstracts using NLP methods

JOHNS HOPKINS HOSPITAL **Baltimore, MD**

Health Analytics Researcher– Precision Care Medicine *Sep 2018 - Present*

- Develop individualized real-time early warning models for various conditions and complications encountered in critical care settings such as hypoxemia, organ injury, and thrombosis, in partnership with physicians & engineers
- Manage and guide 8 student research teams on every step of their data science projects: from data wrangling, handling missing data, feature selection, statistical analysis, model development, optimization, model interpretation, to oral and written presentation
- Won the Investigation Award with the cardiac arrest team as co-first authors at RESS 2019, one of the most important cardiac arrest meetings worldwide; also resulted in 1 publication

JOHNS HOPKINS ENGINEERING **Baltimore, MD**

PhD Candidate Researcher *August 2017 - Present*

- Build and evaluate models for cardiac-related disease prediction, risk stratification, disease trajectory forecasting, subgroup clustering, and biomarker discovery, resulting in 1 published journal article and 1 manuscript in preparation so far
- Derive insights and knowledge from various types of high-dimensional medical data (images, time-series, electronic health records, cohort studies, clinical trials) using biostatisticss , ML, and deep learning methods

MEDTRONIC **North Haven, CT**

Contract Engineer - Minimally Invasive Therapies *Sep 2016 - May 2017*

- Designed, analyzed, and prototyped a testing fixture for Medtronic's Signia Surgical Stapler used in laparoscopic surgery; reducing cost per fixture by $245,000 i.e. enhancing affordability by 50 times; improved fixture's portability and ease in use

TECHNICAL SUMMARY

Projects: please visit https://hieu-hugh-nguyen.github.io/
ML/Statistics: model tuning, model stacking, deep learning, survival analysis, data querying, data manipulation, feature selection, feature engineering, distributed computing, cloud computing, shell scripting, model deployment
Software Tools: R, Python (TensorFlow, Keras, Pytorch, Sklearn) (4+ years of experience), SQL (BigQuery, PostGreSQL, MySQL) (3+ years), Unix Shell (3+ years), MATLAB (7+ years), Java, Bash, Git, Vitrea Imaging, LaTeX, STATA, SAS, Spark
Cloud platforms: Google Colab, AWS, Azure, Databricks
Container Technologies: Docker

LEADERSHIP & ACTIVITIES

Leadership: Data Science Research Team Mentor - JHU Precision Care Medicine
Former Vice-President of IEEE Chapter - Trinity College Chapter
Former Team Leader - Senior Design Capstone Project
Teaching Assistant - 4 Courses in Mathematics and Engineering at JHU and Trinity
Former Student Manager - Trinity College Library Circulation Desk

ExtraCurr. Activities: Presented 5 projects' findings in various international, national, and regional conferences
Performed breakdance in 3 Dance Concerts