

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

PERTHERA INC.

Boston, MA

Biomedical Data Scientist Intern

May 2020 - Present

- 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 biostatistics, 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

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