# 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** *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 Detection and Classification of Breast Cancer using Breast X-ray Images, Statistical Shape Modeling using MRI Brain Scans
- Relevant Coursework: Precision Medicine, Machine Learning, Deep Learning, Medical Imaging Analysis, 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

**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

**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

**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 (imaging, time-series, electronic health records, cohort studies, clinical trials, case-control studies) using biostatistics and ML methods

## TECHNICAL SUMMARY

**Projects:** please visit https://hieu-hugh-nguyen.github.io/
**ML/Statistics:** model tuning, model stacking, deep learning, survival analysis, data querying and manipulation, feature selection, feature engineering, distributed computing, cloud computing, shell scripting
**Software Tools:** R, Python (TensorFlow, Keras) (3+ years of experience), SQL (BigQuery, PostGreSQL) (3+ years), MATLAB (7+ years), Google Colab, AWS, Bash, Git, Vitrea Imaging, LaTeX, STATA, SAS

## 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