DZUNG NGUYEN

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EDUCATION

University of Pennsylvania: School of Engineering and Applied Sciences Graduating May 2021
BSE in Computer and Information Science: Digital Media Design, Minor in Mathematics
Selected Coursework: Data Structures and Algorithms (Java), Programming Languages and Techniques (Java), Networks and Social Systems on the Internet (Java), Physically-based Rendering (C++/OpenGL), Big Data Analytics (Python, SQL, MapReduce, Sparks).

Jack Kent Cooke Merit Scholarship Recipient
One of the most competitive scholarships in the nation with a 1.6% acceptance rate, covering $40k in costs annually over 4 years.

Rewriting the Code Undergraduate Fellow
Selected from thousands of applicants to participate in women-in-tech community and professional developments.

EXPERIENCE

Software Engineering Intern, **CBRE Build |** Seattle, WA June 2019 - Present
- Rebuilding an Extract-Transform-Load pipeline for processing real estate transactions with $6 billion gross revenue/year. Goal is to reduce runtime of 14-hour process to 20% or less. Technologies include **Python**, **SQL**, **ElasticSearch**, **Docker**, **AWS Lambda**.
- Maximized accuracy and reduced runtime for creating 500k rows of test data with 50+ key-value pairs by nearly 60% in **Python**.
- Improving Deal IQ's UI performance (web application for managing transactions used by 3000+ brokers) by migrating frontend features from **AngularJS** to **ReactJS**.

Teaching Assistant, **University of Pennsylvania |** Philadelphia, PA May 2019 - Present
- Hold weekly office hours and grade exams for CIS240, computer architecture course **(C, Assembly)** with over 100 students enrolled per semester.

Research Assistant**, Perelman School of Medicine |** Philadelphia, PA December 2018 – June 2019
- Designed a new procedure to quickly generate binary masks for cardiac wave scans using **OpenCV** and **MATLAB**.
- Implemented a U-Net model in **Keras** and trained with **AWS GPU Instance** to segment aortic waves from overlapping waves with 82% accuracy. To be used as a plugin in a software helping physicians to efficiently analyze catheterization waveform scans.

Software Engineering Intern, **Ami Artificial Intelligence |** Ho Chi Minh City, Vietnam May – July 2018
- Worked closely with company's CTO to conduct research on best tools and practices in **REST APIs**, microservices, app management (**Docker**, **Azure**) and wrote reports to software team.
- Improved production efficiency by 12% for 30+ engineers measured by weekly tasks accomplished by building a chatbot with **Microsoft Bot Framework SDK** for **NodeJS**.

PROJECTS

PennCourseRec May 2019 - Present
A UPenn course recommendation engine web application
- Designed the full-stack web application with a teammate based on **Django's** Model-View-Controller framework.
- Using **Bootstrap** to implementing user interface components such as displaying and filtering results.
- Implementing an **NLP** model to process user's ideal course description and recommend the most relevant course.

Mini Minecraft November 2018 – December 2018
A Japanese-ink rendition of Minecraft
- Replicated the classic infinite terrain expansion in Minecraft by developing a noise-based 3D terrain generation algorithm in **C++**.
- Decreased gameplay latency by 4 times with **multithreading**.

WeathAR September 2018
A Pennapps-XVIII Hackathon Android application to visualize real-time weather in augmented reality
- Collaborated with 3 teammates to integrate **ARCore SDK** into **Unity** and **Android Studio**.
- Wrote **C#** script to map weather data from OpenWeatherAPI to 3D weather conditions created with Unity.

INVOLVEMENTS AND LEADERSHIP

Penn Women in Computer Science | Mentor September 2018 – Present
Mentor incoming freshman students on course selection, extracurriculars, and coursework management.
Penn AMC SIGGRAPH – Special Interest Group on Computer Graphics | External Relations Chair September 2018 – Present
Plan networking events with other local chapters, organize alumni panels, run skill-sharing workshops.