

DZUNG NGUYEN

dzungng@seas.upenn.edu • (573) 514 – 2413 • dzungpnguyen.com • github.com/dzungpng • linkedin.com/in/dzungng/

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

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.

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, NoSQL, Sparks).

SKILLS

C++ | OpenGL | Java | Python | MATLAB | JavaScript | TensorFlow/Keras | ARCore | Node.js | Numpy | Pandas | SQL/Sparks
Docker | Microsoft Azure | Git | 3D Studio Max | Maya | Unreal Engine 4 | ZBrush

EXPERIENCE

CBRE Build | Seattle, WA

June – August 2019

Incoming Software Engineering Intern

University of Pennsylvania: Perelman School of Medicine | Philadelphia, PA

Dec. 2018 - Present

Machine Learning Research Assistant | Python, Keras, MATLAB

- Conducted feature selection of 6 cardiac catheterization waveforms and their relationships to the cardiovascular system.
- Preprocessing training data from 1,500+ electrocardiograms (ECGs) using **Python** and **MATLAB**.
- Developing a convolutional neural network with **Keras** to extract aortic pressure waves from ECGs. **To be used as a tool in the Arterial Hemodynamics and Cardiac Imaging Lab for heart disease diagnosis.**

Ami Artificial Intelligence | Ho Chi Minh City, Vietnam

May – July 2018

Software Engineering Intern | JavaScript, Node.js, Docker, Azure, RESTful APIs

- Worked closely with company's CTO to conduct research on best tools and practices in **RESTful** services, microservices, app management (**Docker, Azure**) and wrote reports to software team.
- Improved production efficiency by 12% for 30+ engineers as measured by weekly tasks accomplished by building a chat bot using **Microsoft Bot Framework SDK for Node.js**.

PROJECTS

Spatialized Performance and Ceremonial Event Simulations (SPACES)

Dec. 2018 – Present

A virtual reality simulation of various large-scale public ceremonies | C++, Unreal Engine 4

- Designing a procedural generation method in **C++** for **Unreal Engine 4** to create non-player characters with randomized behaviors.
- Setting up the virtual reality pipeline in Unreal Engine 4 to allow for an immersive user experience.
- **Simulation to be used as a teaching tool in University of Pennsylvania's Anthropology Department.**

Mini Minecraft

Nov – Dec. 2018

A Japanese-ink rendition of Minecraft | C++, OpenGL, Qt Libraries

- Built a procedurally generated, noise-based 3D terrain that expands infinitely in all directions.
- Integrated block addition and removal using ray casting method.
- Increased gameplay speed by moving heavy operations such as terrain generation to different CPU threads.

WeathAR – PennApps XVIII

Sept. 2018

An AR Android app for visualizing weather data; a weather disaster prevention tool | Java, C#, Unity, Android Studio

- Collaborated in a group of 4 to integrate **ARCore** SDK into **Unity** and **Android Studio** to visualize weather in any environment.
- Wrote **C#** scripts to specify interaction between weather conditions and real-time weather data from OpenWeatherMap API.
- Implemented front-end **Android** features.

INVOLVEMENTS AND LEADERSHIP

Penn Women in Computer Science | Mentor

Sept. 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

Sept. 2018 – Present

Plan networking events with other local chapters, organize alumni panels, run skill-sharing workshops.

PENNAACH Bollywood Dance Team | Marketing Chair and Dancer

Sept. 2017 – Present

Lead the marketing effort for shows with 400+ member audience. Attend 8+ hours of weekly practices.