ERIC TSAI

320 East 33rd St., Baltimore, MD, 21218 | (949)-735-0777 | etsai7@jhu.edu

EDUCATION

Johns Hopkins University — Baltimore, MD
B.S. Computer Engineer — *December 2017*
- *Honors: Dean's List*

M.S. Computer Science — *Expected May 2019*

RELEVANT COURSEWORK

- Java, Intermediate Programming (C/C++), Data Structures (Java), Distributed Systems, Object Oriented Software Engineering, Database Systems, Computer Architecture, Algorithms, Calculus I, II, II, Linear Algebra, Differential Equations, Discrete Mathematics, Databases, Computer Vision, Probability and Statistics, Computer Architecture, Computer Networks

WORK EXPERIENCE

UPS — Timonium, MD
Web Application Developer Co-Op — *September 2017 - Present*
- Developing shipping application using C# and ASP.NET to manage and meet customer shipping demands

Johns Hopkins Department of Computer Science — Baltimore, MD
Java and C/C++ Course Assistant — *January 2017 – December 2017*
- Assisted students new to C/C++ programming and responsible for grading

Booz Allen Hamilton — Washington, D.C.
Summer Games Intern — *June – August 2017*
- Aligned with Booz Allen's Cyber Functional Service Offerings (FSO)
- Collaborated with an intern team of six students to develop feasible software solutions and working prototypes that aid undercover field agents to drastically reduce likelihood of compromising identity

Air Force Institute of Technology — Wright Patterson Air Force Base, OH
Software Development Intern — *May – August 2016*
- Coded Scripts for simulations of laser operation outcomes in various weather scenarios
- Analyzed over 11 different types of weather data (.csv) to organize and create comprehensive plots
- Parallelized scripts to reduce run time by 70% (scales logarithmically to number of CPUs) (Matlab)
- Improved algorithms to efficiently obtain and process massive global weather data
- Accessed, documented, and simulated programs on military super computer (Unix)
- Demonstrated feasibility and necessity of this program to funders and DOD

Johns Hopkins Nano Energy Lab — Baltimore, MD
Research Lab Assistant — *December 2015 – May 2017*
- Worked with Quantum Dots to produce cheaper and cost efficient solar cells
- Researching and testing thin film solar cells on glass substrates through a spin coating method
- Trained to use Electron Beam Evaporator, Scanning Electron Microscope, and lab techniques

PROJECTS

Dots Game (Java & RESTful API's)
- Designed and Implemented back end using Java to develop RESTful API calls for a two-player web game

Fault Tolerant File Transfers (C)
- Implemented a reliable UDP file transfer program using Automatic Repeat request (ARQ) protocols
- Used a combination of sliding windows and selective repeat ARQ to reduce file transfer times.
- Completed successful transfers up to 90% data loss on 1 Gigabyte files

Video Streaming via CDN (C – in progress)
- Implementing a proxy server with bitrate adaption to stream videos from a local Apache server using socket programming and TCP

Multi-level Hash Tree (C++)
- Implemented a memory efficient hash tree capable of dynamic contraction and expansion

SKILLS

- Proficient in Java, C/C++, Matlab, Python, Unix, Linux
- Familiar with HTML, CSS, React Native, MongoDB, SQL