

Joseph DeChicchis

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EDUCATION

Duke University

Class of 2020
B.S. Computer Science
Philosophy Minor

Harvard University

Summer 2015
Completed coursework:
Introduction to Theoretical
Physics; International Law
and Human Rights

SKILLS

Working Knowledge

C, C#, Java, Objective-C,
Python, MIPS, Javascript,
HTML, CSS

Basic Knowledge

C++, Rust, Swift, Scheme,
Verilog, Ruby, GNU Octave,
MATLAB

Human Languages

English, Japanese

COURSEWORK

- Intro & Advanced Algorithms
- Intro & Advanced Computer Architecture
- Operating Systems
- Digital Systems
- Edge Computing
- Compilers
- Discrete Mathematics
- Calculus & Linear Algebra
- Probability
- Deep Learning
- Web Development

EXPERIENCE

Lyft – Compute Engineer Intern (Level 5, Self-Driving Division)

May 2019 - August 2019 | Palo Alto, CA

- Worked on a project to increase the compute efficiency (low latency and low power) of the on-vehicle compute system while not exceeding thermal limits through the use of hardware accelerators
- Incorporated software optimizations to improve neural network inference performance while minimizing negative effects on model accuracy
- Used popular machine learning frameworks such as TensorFlow and PyTorch (Python) as well as hardware specific tools (C/C++) to validate various methods of improving compute efficiency

Duke University – Head UTA for ECE/CS 250 (Computer Architecture)

August 2018 – Present | Duke University

- Coordinating a team of 20 to 25 undergraduate teaching assistants, and working with the professor and graduate teaching assistants on course logistics and material
- Duties include: grading homework assignments and exams; leading out of class recitation sections; holding office hours; preparing study materials; responding to student questions
- Received Outstanding Undergraduate Teaching Award for the 2018-2019 academic year

Microsoft – Software Engineer Intern (Service Fabric)

May 2018 - August 2018 | Redmond, WA

- Developed an internal diagnostic tool to improve engineering efficiency for Service Fabric, Azure's open source distributed computing platform
- Designed the tool to be extensible, so team members can add additional functionality to the tool with minimal effort, and provided step-by-step documentation
- Reduced the amount of time it takes to diagnose common issues by an order of magnitude

Apple – Software Engineering Intern (Watch Software)

May 2017 - August 2017 | Cupertino, CA

- Developed a prototype system for communication between two iOS enabled devices on the Watch Software team
- Worked with mail protocols, natural language applications of machine learning, and networking and database technologies

PROJECTS

Adaptive AR Output Security

January 2019 - April 2019, Duke University

Deployed an adaptive augmented reality output security application on the Magic Leap One which ensures that holograms do not obstruct important real-world objects using a policy trained by reinforcement learning ([report](#)). Demo abstract to appear in ACM SenSys '19.

Cloudlet Caches

October 2018 - December 2018, Duke University

Investigated the feasibility of an edge computing platform which caches dynamic data using a custom C# implementation running on a MacBook Pro and Raspberry Pis ([report](#)).