Kei Imada

It's pronounced like the letter after "J"
500 College Ave - Swarthmore PA 19081 – 206-380-3855 (cell) - kimada1 (at) swarthmore.edu
GitHub: keikun555 – Website: keikun555.github.io - LinkedIn: kei-imada

WHO AM I?

Full stack developer, **systems research assistant**, and **teaching assistant** for computer science and mathematics. Fluent in Python, C, C++, OpenMPI, CUDA, and Japanese. Has multiple experiences in managing projects while also being a full stack developer for tools which helped thousands of clients. A rising Senior with a 3.9 GPA at Swarthmore College studying computer science and mathematics. Looking for opportunities in parallel and distributed computing.

I'm skilled in **Python**, **C**, **C++**, **React**, **Typescript**, **MPI**, **CUDA**, Bash, Linux, Git, OCaml, SQL, Japanese, Chinese, Singing.

WHERE DID I GO?

Swarthmore College **August 2016 – May 2020**
Bachelor of Arts with dual majors in Computer Science and Mathematics: *Cumulative and Major 3.9 GPA*

- Networks, Parallel and Distributed Computing, Algorithms, Natural Language Processing, Programming Languages, Real Analysis, Modern Algebra, Several Variable Calculus, Differential Equations, Honors Linear Algebra

Budapest Semesters in Mathematics **January 2019 – May 2019**
"Magas Kitüntetéssel" High Honors *4.0 GPA*

- Real Functions and Measures, Theory of Computing, Conjecture and Proof, Topology, Mathematical Cryptography

WHAT DID I DO?

Software Engineer Intern at *Pure Storage* **Mountain View, CA**
SSD Anomaly Analytics Tool *June 2019 – August 2019*

- Designed and implemented a scalable web analytics tool that detects and diagnoses SSD drive failures
- Improved latency by 200% by introducing caching layers that store structured responses from Amazon Redshift
- Developed the frontend using React and Typescript, with *ag-grid*, *highcharts*, and *react-select* as core components

Project Lead at *Swarthmore College Computer Society* (SCCS) **Swarthmore, PA**

- One of 15 students selected to maintain servers that host web servers, mail servers, and other critical services
- Collaborate with other SCCS members to develop various services for the Swarthmore College community

SwatPrereqView *December 2018*

- Devised a website that visualized prerequisites for 1,850 Swarthmore courses with a total of 1,000 prerequisites
- Designed the frontend using Semantic UI and vis.js
- Built the backend with Flask and a parallel Beautiful Soup 4 scraper in Python 3

Airpool *January 2018 – September 2018*

- Headed the development team for the website that would help students schedule carpool rides to and from the airport
- Scheduled more than 200 rides with more than 1,000 views
- Designed the frontend using DataTables, Fullcalendar, JQuery, and Semantic UI
- Implemented the backend with Flask and MySQL with LDAP authentication

TriCo Course Scheduler *October 2016 – May 2017*

- Spearheaded the project that would help over 4,000 students schedule their courses out of over 10,000 courses
- Built the backend for the project using Python, developed the frontend with Bootstrap, Fuze.js, and DHTMLX
- Improved the course scheduling experience for more than 1,000 students

Network RAM Research Assistant at *Swarthmore College* *June 2018 – December 2018*

- Employed machine learning analysis methods on system statistics to predict when the system is about to swap to disk
- Headed the development of the user level policy infrastructure in C for the NSwap network RAM implementation
- Improved the runtime of memory intensive benchmarks by 100x and their swap disk usage by more than 30x

Computer Science Teaching Assistant at *Swarthmore College* *January 2017 – December 2018*

- Assist computer science professors in lectures and help students learn data structures, algorithms, and systems
- Lead weekly support sessions to clarify class material and provide lab assistance to students
- Mentor students through structure, logic, and syntax errors while teaching debugging techniques
- Communicate with students, professors, and other peer mentors to explain difficult concepts in clear, concise ways

WHAT ELSE?

Distributed 3D Fractal Renderer on GPU Clusters at *Swarthmore College* *April 2018 – May 2018*

- Developed a 3D fractal renderer on GPU clusters using CUDA C/C++ and OpenMPI
- Generated an 8192x8192 image of 3D fractals in 5 seconds per iteration using distributed ray marching
- Tested benchmarks of the software on Swarthmore College's commodity computer cluster
- Co-authored a paper about the project and its scalability

Real-time Butterworth Type IIR Filtering Library at *University of Washington* *July 2017 – August 2017*

- Engineered a real-time Butterworth type signal filtering package from scratch that filters more than 250 kHz in real-time
- Identified and eliminated bottlenecks to increase processing speed by more than 250 times
- Created a wave audio file frequency filtering package using the signal filtering package