Yuma Takahashi

New York City, Boston· takahashy7@gmail.com · (347)846-9214
GitHub: https://github.com/takahashy
https://takahashy.github.io/personal-website

EDUCATION

Tufts University Medford, Massachusetts
Bachelor of Science Degree in Computer Science and Mechanical Engineering Sep 2019 - Jun 2023
- **Relevant Courses:** Data Structures, Algorithms, Programming Languages, Compilers, Machine Structure and Assembly-Language Programming, Computation Theory, Web Programming, Security, Linear Algebra, Numerical Linear Algebra, Mathematical Modeling, Discrete Mathematics, Differential Equations, Probability and Statistics
- **Extracurriculars:** Japanese Culture Club Eboard, Math Society, Intramural Soccer and Volleyball

The Bronx High School of Science Bronx, NY
High School Diploma Sep 2015 - Jun 2019
- **Awards:** National Honors Society, AP Scholars with Distinction

SKILLS

Programming: Python, C/C++, Linux, Javascript/Typescript, HTML/CSS, MATLAB, OCaml
Software/Libraries: Github, Makefile, numpy, pandas, matplotlib, scikit-learn, CAD/FEA, Bootstrap, NodeJS, Express, EJS, RESTful API, Axios, MongoDB
Foreign Language: Native Japanese Bilingual and Biliterate

PROJECTS

Password Checker Jun 2020 - Jun 2020
- Created a password checker using the haveibeenpwned API written in Python
- Verifies that a password is secure by checking if it is a reused credential

Arith Oct 2021 - Nov 2021
- Built a compressor for Pixmap images and a corresponding decompressor by packing and unpacking binary data in C
- Achieved a root mean square difference of 2% between original and decompressed images

Universal Machine Nov 2021 - Dec 2021
- Built a 32-bit virtual machine emulator consisting of eight general purpose registers and segmented memory written in C
- Used profiling techniques to improve the runtime by over 90%

Mood Tracker Oct 2021 - Dec 2021
- http://ethahua.epizy.com/moodTracker/
- Created a mood tracker website that provides convenient ways to make a diary entry and analyzes the user's mood based on their trends
- Uses external APIs, SQL Database, and interacts with the server using PHP

sPool Programming Language Jan 2023 - Jun 2023
- Created a general-purpose, statically-typed programming language using OCaml and llvm
- Incorporates concurrent programming via multithreading, automatic memoization for dynamic programming, and functions as first- class citizens

Progress Manager Jul 2023 - Present
- Developed a website that logs daily activities generating a breakdown of user's day
- Uses EJS to load the page, stores daily logs in MongoDB and interacts with the server using Express

WORK EXPERIENCE

Tufts Pre-College Coding 101 Program Tufts University, MA
Instructors Assistant July 2022 - August 2022
- Explained Python concepts and helped develop modules with the program instructor
- Programmed the space invaders game using pygame in Python

Staar Center, Tufts University Tufts University, MA
Intro to Computer Science Tutor Sep 2021 - May 2023
- Worked with students outside of lectures to clarify covered topics
- Provided support for students learning C++, Python, and Javascript by answering questions regarding homework, classwork, exams, and labs

Department of Physics, Queens College Queens College, NY
Assistant Researcher May 2018 - Jun 2019
- Researched on the applications of quantum physics in the mitochondria of a cell, mentored by Professor Lev G. Murokh
- Generated plots and calculated systems of partial differential equations written in MATLAB
- Improved run time efficiency by 40% and mitigated approximation errors