Michael S. Li

28 Pate Drive
Middletown, NJ 07748
✆ *(+1) 908 902 6082*
✉ *michael.li.46335@gmail.com*
https://github.com/maikully/

Education

2019–2023	**Brown University**, *Sc.B, Computer Science and Music*, Providence, RI, GPA: 3.86.

Relevant Coursework

Programming	Design & Analysis of Algorithms, Machine Learning, Deep Learning, Software Security & Exploitation, Design & Implementation of Programming Languages, Introduction to Software Engineering, User Interfaces & User Experience
Other	Linear Algebra, Statistical Inference I, Discrete Structures & Probability

Work Experience

Jun–Aug 2022 — **TIP Software Engineering Intern**, *Capital One*, Chicago, IL.
- Developed a full-stack internal tool using React and Python with Flask to programmatically generate configuration files and pre-set file structures and read/write from company databases
- Took a leadership role: found new ways to expand the project, took on difficult tasks, and helped teammates
- **skills: React, JavaScript, Python, Flask, Jenkins, Docker, Git, HTML, CSS**

Jun–Aug 2021 — **Machine Learning Intern**, *Merck*.
- Used Camelot to write a Python script that parses data from English and Chinese PDFs into organized spreadsheets
- Researched and tested PDF table extraction tools (Camelot, pdfplumber, Azure Form Recognizer)
- **skills: Python, Camelot, Conda**

2021–2023 — **Student Manager**, *Brown University IT Service Center*, Providence, RI.
- Manages shifts, logistics, training, and hiring of other technical assistants
- Answers IT help tickets and chats and provides technical support to staff and students

Projects

Personal Website/Portfolio, *https://maikully.github.io*.

Nov 2022 — **Tablator**, https://tablator.herokuapp.com/.
- Developed a dynamic programming algorithm in Python and interface in React that finds optimal guitar fingering paths for sequences of notes and displays them as tabs
- Added a variety of features, allowing the user to use midi files or a virtual online keyboard for note input, listen to the sequence, download the tab as a document, adjust the algorithm's cost function, and input alternate tunings
- **skills: Python, Flask, React, JavaScript, HTML, CSS**

Oct 2022 — **LOL Outcome Predictor**.
- Used Tensorflow with Python to develop a deep learning model to predict the outcome of a League of Legends game based on the champions (playable characters) chosen by the players
- Wrote scripts to scrape and manipulate large amounts of API data without exceeding the rate limit
- **skills: Python, Tensorflow**

Apr 2022 — **JPEG Deblocker**.
- Used Tensorflow with Python to develop a convolutional neural network designed to remove blocking artifacts from JPEG images, achieving higher quality than JPEG compression while preserving file size
- Used peak signal-to-noise ratio (P-SNR) and structural similarity index measurement (SSIM) as metrics
- **skills: Python, Tensorflow**

Apr 2021 — **Spothouse**, https://spothouse-app.herokuapp.com/.
- Used React and Spark Java to create a webapp that allows a group of people to share a Spotify queue and vote on the order
- Developed a system to give users voting power scaling with the upvotes on the songs they suggest
- **skills: Java, Spark Java, React, JavaScript, HTML, CSS**

Nov 2019 — **ChordConstructor**.
- Used Java to develop an algorithm that finds the notes for a chord based on a key signature and chord symbol
- Used JavaFX to create a GUI that displays the appropriate chord on a treble clef staff and plays it for the user
- **skills: Java, JavaFX**

Skills

Programming Languages	Java, Python, C, JavaScript, Jenkins, Django, Docker, Spark Java, x86-64 Assembly, React, HTML, CSS, Dart/Flutter, SQL	Misc.	Agile, Unix/Linux, Jenkins, Flask, Django, Spark Java, Docker, Flask, WebSockets, AWS, Object-Oriented Design, LaTeX
AI/ML	Tensorflow, Machine Learning, Deep Learning	Math	multivariable calculus, discrete mathematics, probability, statistics, linear algebra