Ravi Riley

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EDUCATION

UC Berkeley Bachelor of Science in Electrical Engineering & Computer Science (EECS)

Relevant coursework:

- Structure & Interpretation of Programs (Python, SQL, & Scheme), Data Structures & Algos (Java, JUnit)
- Designing Information Devices and Systems (Machine Learning, Circuit Analysis & Design, Signals)
- Linear algebra, Multi-variable Calculus

SKILLS

Languages	English, Chinese (Mandarin - Working Proficiency)
Programming	Python, SQL, Java, Javascript, Dart, HTML, CSS, Sass, Liquid
Frameworks	Flutter, Firebase, Flask, RESTful APIs, PostgeSQL, Express, React, React Native, Node, Jekyll
General	Linux, Git, Regex, Excel/Sheets, Markdown, LaTeX, JupyterLab, Photoshop
3D Printing	Simplify 3D, Cura; construction, maintenance, operation of any FDM 3D printer
Fabrication	3D printing, CNC, soldering, circuits, laser engraving, basic wood-shop
Computer Aided Design	Autodesk (Inventor, Fusion 360, Meshmixer, Netfabb), OpenSCAD, SketchUp

WORK EXPERIENCE

SCRIPT | Full Stack Engineer   Jan 2021 – Present | scriptrev.com

- Head software engineer at Script, a Startup Labs backed content review-based social media platform
- Using Flutter and Firebase to build a cross platform, Instagram-like social media app from the ground up

PPE FOR COVID-19 | Founder   April 2020 – Jan 2021 | raviriley/PPE-for-COVID19

- Founded a community movement that delivered 1000+ face shields and surgical mask strain relievers to healthcare workers at local hospitals, essential workers, and high school teachers
- Built a STL-to-OpenSCAD file converter web app with Javascript and designed an OpenSCAD script for STL stack generation to help others easily 3D print many parts simultaneously
- Increased membership by 31 volunteers through community outreach & social media
- Fabricated and assembled PPE and coordinated logistics for sanitary deliveries

INTOOLOVATION, INC. | Prototyping Engineer & Web Dev   June 2018 – Dec 2020 | intoolovation.com

- Developed company e-commerce website. Implemented Search Engine Optimization best practices and achieved #1 on multiple search engine rankings for desired keywords
- Turned conceptual idea of a re-imagined ratcheting wrench into a real product with computer aided design software, then prototyped the patented invention with additive manufacturing
- Assessed multiple products in production pipeline, from concept design to manufacturing

CV ENTERPRISES | Co-founder, Web Developer, Sysadmin   Aug 2018 – Aug 2020 | cventerprises.org

- Co-founded an organization of 50+ web & mobile developers that connects high school administrators and local businesses in need of software solutions to skilled CS students looking to gain real-world experience.
- Developed a fully automated Jekyll back-end for our website for future ease of use
- Managed teams with an agile methodology based workflow using Slack, GitHub Organizations, & Trello
- Designed a software development curriculum with educators that was approved as an honors course by the Board of Education & taught 40+ computer science students Java, Python, Git, C++
- Built a virtual course on building automated stock trading systems and created a data management system for course students
- Sysadmin of in-house Linux server

FREELANCE 3D PRINTING & CAD | 3D Printing and Design Specialist   July 2016 – July 2018
- Founder of an on-demand 3D printing and CAD/3D modeling/design business   @dimensionsprinting
- Sale of products I design and fabricate + designing custom products tailored to customers' needs
- 900+ orders delivered

FRC 589 ROBOTICS | Design Team and CAD Team Leader   January 2016 – March 2020 | cvrobots.com
- Leader in the design process from initial conceptualization to producing detailed CAD
- Created renders, 2D fabrication drawings, & multi-hundred part assemblies for 4 different robots in Inventor
- Contributed to prototyping, design, systems integration, testing, and electronics subsystems
- Mentored by NASA JPL engineers, followed engineering and manufacturability best practices
- Helped the team win the Engineering Inspiration Award twice and the Chairman's Award

PROJECTS

BIASCOPE APP | Flutter, Python, Flask, RESTful APIs, SQLite, Pytorch | 2020
- Detects and displays bias of news articles as a visually intuitive overlay. Uses LSTM RNN deep learning natural language processing to conduct sentiment and bias analysis on text.

STATISTICAL ARBITRAGE AUTOMATED TRADING STRATEGY | Python (Pandas, SciPy, Numpy), SQLite | 2020
- Built an object-oriented database management system on SQL and Pandas. System analyzes incoming stock time series data with a correlative analysis algorithm to generate lists of correlated stock pairs
- Implemented a statistical arbitrage trading strategy that executes through the TD Ameritrade and Robinhood APIs. Autonomous algorithm can effectively predict volatility at a 90% confidence level and whether the opportunity is a buy or sell at a 75% confidence level

STOCK CORRELATION APP | Python (Pandas, Numpy, Matplotlib, Seaborn), Flask | 2020
- Designed a web app that fetches stock data as Pandas dataframes, then computes the correlation coefficients between 2 or more stocks over a user-specified time interval
- Used Matplotlib and Seaborn to visualize the strength of the correlation over time by displaying colorful, visually intuitive graphs to the user

STL TO OPENSCAD FILE CONVERTER | HTML, CSS, JavaScipt | 2020
- Converts STL files to OpenSCAD modules by converting triangles in an STL mesh into point-defined polygons.
- Performs file verification on uploads to make sure uploaded file is a .STL file, then runs the conversion.

3DVERKSTAN FACE SHIELD STACKER | OpenSCAD | 2020
- Builds a customizable stack of face shield frames. User can specify frame type, 3D printer settings, and stack features in the UI. Outputs STL file as well as total calculated height of the file.
- Cloud-based Thingiverse Customizer version uses the STL to OpenSCAD file converter above to internally store all necessary files.

AGENCY JEKYLL THEME | Jekyll (Liquid, HTML, CSS, Sass, JS) | 2019   RAVIRILEY/AGENCY-JEKYLL-THEME
- Created a Jekyll theme with 4k+ downloads & multiple features on theme websites. Added a backend-less contact form, page generation from YAML files, Markdown support, Google Analytics, and much more
- Currently in use by UCI's Genomics, Computation and Sequencing Laboratory and 100+ companies

CRESCENTA VALLEY TRIVIA RALLY | Unity, C# | 2018
- Developed an Android game hosted on the Play store that quizzes students on CVHS trivia.

ROLLING BALL AP CS HACKATHON ENTRY | Unity, C# | 2017
- Developed a mobile 3D Unity game that used real physics to control a rolling ball that could drive around the map and collect coins with particle effects.

AP HUMAN GEOGRAPHY SCORE ESTIMATOR | Python | 2016
- Analyzed data in Python and developed a score estimator for the AP HUG exam that outperformed the leading web-app in accuracy of predictions during my freshman year of high school.

AWARDS

YOUTH CHINESE LANGUAGE CHALLENGE 1ST PLACE Essay Competition | May 2016
I won an essay competition with my Mandarin essay against both native and non-native Mandarin speakers up to 18 years of age.

COMPUTER PROBLEM SOLVING TOP 10 FINALIST Future Business Leaders of America (FBLA) | February 2019
Recognized for achievement on an assessment of a broad base of knowledge and competency in core hardware and operating system technologies including installation, configuration, diagnostics, preventative maintenance, basic networking, and computer architecture. Achieved 7th place out of 300+ contestants.

CV TOWN COUNCIL SCHOLARSHIP June 2020
Recognized for outstanding academic achievement, local community service, and entrepreneurship.

AP SCHOLAR WITH DISTINCTION May 2020
Awarded to students who average a minimum of 3.5 on all their AP exams and score 3 or more on at least five of them.

COMMENDED NATIONAL MERIT SCHOLAR Sept 2019
Awarded to the top 2.2% of students in the USA who demonstrated exceptional academic promise.

SCHOLAR ATHLETE Varsity Cross Country, Track, and Volleyball | 2016, 2017, 2018, 2019, 2020
Recognized for maintaining a 3.5 or higher GPA while participating in a sport; received eight times total in Cross Country, Track, and Volleyball, and received the Highest GPA Award twice.