# Ryan Purpura

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## EDUCATION

**University of California, Berkeley** **Berkeley, CA**

*B.S. Electrical Engineering and Computer Science, GPA: 3.95* *Aug 2017 - May 2021*

- **Selected coursework**: Database Systems, Computer Security, Algorithms, Operating Systems, Machine Learning

## EXPERIENCE

**Easy Breathe, Inc.** **Los Angeles, CA**

*Software Development Intern* *Jun 2020 - Present*

- Addressed production bugs and implemented improvements in existing PHP e-commerce website.
- Updated password system to use industry-standard best practices and updated validation rules for new passwords.
- Created a status checker to inform sales representatives when external insurance validation services are offline.
- Automated the generation and sending of daily gross-profit reports using Node.js and created a web interface for generating additional reports.

**UC Berkeley RISE Lab** **Berkeley, CA**

*Undergraduate Research Assistant* *Jan 2019 - Dec 2019*

- Diel | https://github.com/yifanwu/diel
  - Contributed to experimental framework facilitating creation of declarative, scalable, and cross-layer data visualizations, using Typescript and Node.js.
  - Developed a caching mechanism for efficiently evaluating queries involving remote tables.
  - Benchmarked Javascript database engines, demonstrating 2.5x speedup when SQL.js is compiled into WebAssembly compared to the standard Javascript implementation.
- B2 | https://github.com/yifanwu/b2
  - Contributed to experimental Jupyter Notebook extension that creates interactive data visualizations based on queries written by the user, using Typescript and Python.
  - Implemented the presentation and interaction of data visualizations within the Jupyter Notebook using React.js.
  - Developed a logging system enabling state restoration when the Jupyter Notebook is restarted.

**UC Berkeley EECS Department** **Berkeley, CA**

*Undergraduate Student Instructor (CS 61BL: Data Structures)* *Jun 2019 - Aug 2019*

- Taught a laboratory section consisting of three-hour sections four times a week with approximately 30 students. Developed and contributed to programming laboratories, projects, and exams covering object-oriented programming, data structures, and graph algorithms in Java.
- Held design reviews, providing feedback to students for their proposed architectures of a Git-like version-control system.

## PROJECTS

**Ryme | github.com/rmpurp/ryme**

- Dynamic blogging engine written in Node.js with single-page application frontend written in React.js, currently deployed at rmpurp.com.

**Knowhow | github.com/rmpurp/knowhow**

- Personal wiki-style knowledge base written in Go, featuring automatic versioning and full-text search using the SQLite FTS5 Extension.

**TimeTractor | https://github.com/rmpurp/timetractor**

- iOS app written in Swift that allows the user to track the time they spend on their projects.
- User interface is written using UIKit using the Diffable Data Source and Compositional Layout Collection View APIs.
- Data persistence is implemented using SQLite through the GRDB framework.

## SKILLS

***Languages:*** Python, Java, C, Swift, SQL, Javascript/Typescript, HTML, CSS

***Technologies:*** Node.js, React.js, Git, Linux