Tyler Coleman

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github.com/tyler-coleman

Education

Tufts University – Medford, Massachusetts
BS Electrical Engineering '17, cum laude

Coursework: web development - data structures - digital signal processing
communications systems - linear systems – feedback control systems
computational physics - microprocessor architecture - probabilistic systems analysis

Experience

Pacific Gas & Electric (contracted) – San Francisco, CA
Software Engineer – *September 2017 - present*

- Analyzed business requirements and developed test scenarios for new rate schedules.
- Improved efficiency by automating existing procedures utilized by offshore testing teams.

Autoliv Active Safety – Lowell, MA
Technical Intern – *Summer 2016*

- Contributed to bring-up of narrow-band radar sensor prototype for automotive use.
- Conducted critical review of hardware design to identify potential weaknesses.

Projects

Automated Cough Counting System – PIC24, embedded C

- Designed a wearable device in conjunction with the Hospital Nacional Dos de Mayo in Peru.
- Analyzed microphone and accelerometer inputs in real time to profile cough samples.

Digital Guitar Effects Processing – Teensy, embedded C

- Designed and constructed electrical circuitry to interface a guitar with a Teensy DSP.
- Developed multiple effects in C to process guitar audio in real-time.

Fractal Generation – C++

- Implemented escape-time algorithm for Mandelbrot set to generate bitmap images with controllable histogram coloring and zooming.

Rate My Lunch – React.js, Redux – rate-my-lunch.firebaseapp.com

- Developed a faux social media where users can post and vote on other users' lunches.
- Integrated React front-end with RESTful back-end to enable data persistence.

Web Game Development – Express, Phaser, Socket.IO

- Built UX and backend for a real-time, multiplayer TRON clone, including a matchmaking system.
- Enabled data persistence and stat-tracking by integrating a NoSQL database and a login system.

Skills

- Programming and debugging of embedded systems
- Object-oriented analysis, design, and development
- Design and execution of software test plans
- Front-end and back-end web development
- Technical and non-technical communications

Languages: C++ (advanced), C (proficient), Java (prof.), Visual Basic (prof.), MATLAB (prof.), JavaScript (prof.), C# (prior exp.), Python (prior exp.), SQL (prior exp.)
Tools: React.js, Redux, Unity, Selenium