Austin Bailey

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OBJECTIVE

Seeking a summer internship where I can build on my previous experience and strong base in the fundamentals of programming while making important contributions to a dynamic organization.

EDUCATION

- **Boston College** — Chestnut Hill, MA
  B.S. Computer Science; Major GPA 3.3 — *2015-2019*
  - **Relevant Coursework**: Computer Science I, Computer Science II, Logic and Computation, Randomness and Computation, Computer Organization and Lab, Computer Systems, Multivariable Calculus, Linear Algebra, Probability
  - **Activities**: Student-Athlete, Mens Rowing Team (20 hours/week commitment)

EXPERIENCE

- **Software Engineering Research Associate** — Chestnut Hill, MA
  JoyceStick, Boston College — *Dec 2017 - Present*
  - Cutting-edge virtual reality (VR) research project with over $150,000 in grants that has been reported on by hundreds of news outlets including the Associated Press, Washington Post, New York Times, and NPR. As an engineering research associate, my work has peaked the interest of executives at Amazon and Microsoft, and is currently being used by the Smithsonian Museum to create interactive exhibits.
  - **Open Source VR Toolkit**: Developing production ready VR-architecture libraries and scripts for locomotion and interactions in 3D-space. These libraries are being made open source to allow thousands of interested independent-developers to use these libraries in their own VR apps.
  - **3D Assets Dependency Manager**: Developed a dependency manager command-line interface and web app for 3D models in Unity projects. This dependency manager keeps code bases organized and reduces project file size by hosting 3D models in the cloud.
  - **Cross Platform VR APIs**: Developing a library of APIs to build cross platform [cross headset] VR apps using only one code base.
  - **WebVR Framework**: Developing framework for creating native VR apps using web technologies for rapid development and easy collaboration. Also allows for VR apps to be run in modern browsers on low-powered devices.
  - **Real-time collaborative VR Web App**: Web based interface for creating 3D environments for VR collaboratively in real-time (akin to Google Docs).

- **Front-end Developer** — Chestnut Hill, MA
  University Communications, Boston College — *Jan 2018 - Present*
  - Design and modernize over 1000 pages of Boston College's marketing website and web app views.
  - **Public Marketing Pages**: Write CSS using the latest design trends to effectively marketing to prospective students and donors.
  - **Web App**: Creating DRY, maintainable, and responsive styles for a new course registration web app that will be used by the university's 15,000 students.

- **Teaching Assistant** — Chestnut Hill, MA
  Computer Science Department, Boston College — *Sep 2017 - Dec 2017*
  - Recruited to teach a 50-minute Computer Science I (Python) class by Professor Montazerhodjat based on my successful class performance.
  - Conduct a weekly discussion section with 22 students, grade assignments, and hold at least two office hours a week.

- **Information Systems Intern** — Boston, MA
  Spaulding Rehabilitation Hospital, Partners HealthCare — *June 2017 - Aug 2017*

- ○ Collaborated with outside contractor to develop learning management system website for patients and physicians. Conducted consumer satisfaction surveys regarding virtual visits and compiled and presented results to key stakeholders.
- ○ **Quality Assurance**: Worked to identify and troubleshoot errors in a new learning-management web platform.
- ○ **Animation**: Created an animated video to market Telehealth, a virtual doctor visit platform, to help patients and caregivers better understand care and treatment options.

INDEPENDENT PROJECTS

- **Fitness Tracker iOS App**

  https://github.com/austinbailey1114/iOS

  - ○ iOS app to track weightlifting data, diet, body weight and graph progress over time.
  - ○ **Features**: Users can log their lifts and weight, and track their progress with graphs. Users can also search a database of 100,000+ foods to easily track their daily nutritional intake, or they can create their own food item.
  - ○ **Technologies**: Built using Swift 4. Uses Nutritionix's REST API to gather food nutrition data.

- **Companion Web App for Fitness Tracker**

  https://github.com/austinbailey1114/LiftAppSite

  - ○ Web app that replicates the Fitness Tracker iOS app functionality to record and graph health data. This website and the iOS app use a shared MySQL database and an internal REST API to keep user data in sync.
  - ○ **Technologies**: Built with PHP on a Ubuntu 16.04 LAMP server.
  - ○ Try it out at https://austinmbailey.com/projects/liftappsite with the username 'demo' and the password 'demo'.

- **Nutrition Data API** In Development

  https://github.com/austinbailey1114/iOS

  - ○ Developing a custom REST API to replace Nutritionix's API in the fitness tracker iOS and web app. Data is aggregated from USDA.

- **MySQL Query Builder Library**

  https://github.com/austinbailey1114/iOS

  - ○ Open source PHP library to make building MySQL queries with prepared statements easier.
  - ○ **Features**: Using this object-oriented library, developers can quickly prepare `SELECT`, `INSERT`, `UPDATE`, and `DELETE` MySQL queries with multiple `WHERE` conditions. These queries automatically use prepared statements to prevent against SQL injection.

- **Flashcards Web App**

  https://github.com/austinbailey1114/iOS

  - ○ Web app to create and study flash card sets. Inspired by Quizlet.
  - ○ **Features**: Users can create study sets of flash cards. When studying, users can use the arrow keys to flip a card, go to the next one in the pile, or go to the previous one. Each action features an accompanying animation. Users can also choose to shuffle the deck, or start with the definition side of the card first.
  - ○ **Technologies**: Built with PHP on a Ubuntu 16.04 LAMP server. Uses jQuery for complex 3D animations.
  - ○ Try it out at https://austinmbailey.com/projects/flashcards with the username 'demo' and the password 'demo'.

WEEKEND PROJECTS

- **Where's Waldo**: Using computer vision (OpenCV) and a supplied image of 'Waldo' to find Waldo.

SKILLS

- **Languages**: Swift, PHP, JavaScript, Java, Python, MySQL, HTML, CSS, C#
- **Technologies**: REST APIs, cURL, AJAX, Git, Unity/VR/AR, 3D Modelling (Maya)