LIAM BECKMAN

liam@liambeckman.com | liambeckman.com/code

A self-driven developer who loves helping organizations increase their impact by crafting software and solutions that work for people. Online resume available at liambeckman.com/resume.

EDUCATION

Bachelor of Science; Computer Science — Oregon State University Postbaccalaureate, 3.64 GPA
Graduated June 2019   Corvallis, OR

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Bachelor of Science; Biology — University of Oregon Presidential Scholar, 3.34 GPA
Graduated June 2017   Eugene, OR

TECHNICAL EXPERIENCE

▷ **Software Workflows** — 2 years working with and releasing projects via VCS. Git and Jenkins servers hosted on a personal single board computer provide continuous integration and delivery for my own software projects.

▷ **Unix** — 2 years developing software on GNU+Linux systems (currently running self-compiled 5.1.6 kernel).

▷ **Object Oriented Design** — 1+ years developing software with OOD principles in Java and JavaScript.

▷ **Scripting Languages** — 1+ years scripting projects and workflows with Python and Bash.

SELECTED PROJECTS

Voyager Index* — quality of life application to help world travelers find their next home.
JavaScript, PostgreSQL, Go, Python, HTML, CSS   github.com/voyager-index

Spearheaded the development of the server and CLI for the Voyager Index project — a world map of over 7,000 cities ranked by 23 user-selected filters. It includes national and international climate, economic, and safety data.

▷ Standardized server interactions with the database (via the asynchronous function swimming_pool()).

▷ Hosted entire PostgreSQL database on personal single board computer (Raspbian on RPi3 Model B).

▷ Integrated and configured webpack and Node.js development workflows.

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RemoveMyWaste — map application for hazardous waste removal.
Java, MariaDB/MySQL, SQLite, JavaScript, HTML, CSS   github.com/RemoveMyWaste

Lead development of RemoveMyWaste, an application for the safe disposal of hazardous household and industrial materials. Users can locate disposal centers near them and read information on the materials they wish to dispose of.

▷ Created Android and web interfaces. Hosted web and database components on personal server.

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demo* — terminal emulator emulator that allows users to try out programs.
Node.js, JavaScript, Go   github.com/lbeckman314/demo

Created a suite of remote applications to allow users to try out programs and programming languages by accessing a simple web app, reading documentation, or even experimenting from the command line. Processes are communicated via WebSockets and run in a lightweight Linux sandbox (currently a Debian chroot secured with Firejail).

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convida — Conway's Game of Life powered by WebAssembly.
Rust, WebAssembly, JavaScript   github.com/lbeckman314/convida

Developed a web implementation of Coway's Game of Life simulation with blazing fast speeds due to WebAssembly. The web interface is available at convida.liambeckman.com.

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* Interactive demos available at liambeckman.com/code#terminal   LATEX source: git.io/fhsem

COURSES

- ▷ **CS 165** — Accelerated Introduction To Computer Science
- ▷ **CS 225** — Discrete Structures In Computer Science
- ▷ **CS 261** — Data Structures
- ▷ **CS 271** — Computer Architecture And Assembly Languague
- ▷ **CS 290** — Web Development
- ▷ **CS 325** — Analysis Of Algorithms
- ▷ **CS 340** — Introduction To Databases
- ▷ **CS 344** — Operating Systems I
- ▷ **CS 361** — Software Engineering I
- ▷ **CS 362** — Software Engineering II
- ▷ **CS 372** — Introduction To Computer Networks
- ▷ **CS 373** — Defense Against The Dark Arts
- ▷ **CS 467** — Online Capstone Project
- ▷ **CS 475** — Introduction To Parallel Programming

WORK EXPERIENCE

Lab Prep Assistant — Eugene, OR
University of Oregon Honors Biology Lab   September, 2014 — June, 2015

Prepared materials and procedures for The Honors Biology Lab curriculum at the University of Oregon. Relevant responsibilities included making and curing petri plate solutions, evaluating states and types of bacterial growth, and studying the processes and mechanisms of cytological phenotypic expression and function.

Student Researcher—Botanical Genetics — Minneapolis, MN
University of Minnesota   May — August, 2014

Conducted research involving botanical DNA isolation, purification, sequencing, and analysis; examined the effect of personally designed genetic markers had on a tropical tree's evolution/phylogeny; presented results and conclusions at the following scientific conferences:

- ▷ The 2015 AAAS Emerging Researchers National Conference in STEM hosted in Washington D.C.
- ▷ The 2015 University of Oregon Undergraduate Research Symposium
- ▷ The 2014 University of Minnesota Undergraduate Symposium

Student Researcher—Ecology and Restoration — Blue River, OR
H.J. Andrews Experimental Forest   June — August, 2013

Analyzed forest networks and plant response to fire disturbances; surveyed plant communities in experimental sub-alpine meadows as part of ongoing research; published study in *Restoration Ecology: The Journal of the Society for Ecological Restoration* ("Vegetation Recovery in Slash-Pile Scars Following Conifer Removal in a Grassland-Restoration Experiment", November 2014).

Ski and Snowboard Technician and Shop Hand — Welches, OR
Mountain Sports   January — April, 2019

Assisted customers in finding, tuning, and renting or buying select winter gear. I regularly guided them in choosing skis, snowboards, snowshoes, or cold-weather apparel that would keep them safe while exploring the Mt. Hood wilderness. Other responsibilities included restocking equipment, maintaining sale records, and recommending recreational areas based on customer experience.