# Liam J. Peachey

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Passionate computer science graduate with experience in scripting, object-oriented programming and software development. Adaptable and dedicated to excellence in team and individual environments. Eager to meet challenges and further develop programming skills in an agile environment.

## Education

**BA** - Computer Science & Japanese Language and Linguistics - *Earlham College, Richmond, IN*
*(August 2018 - May 2022)*

- **GPA:** 3.95
- **Honors:** Phi Beta Kappa, College and Departmental Honors in Computer Science, William Roha Computer Science Award, Arthur M. Charles Fellowship for International Studies, Natural Science Division Outstanding Student Award

## Skills

- Python (4 years), C++ (2 years), Java (3 years), C (2 years), C# (1 year), SQL (1 year), HTML (1 year) and CSS (1 year)
- Nadeshiko, Dolittle, and Kotodama on Squeak (Japanese based programming languages)
- Object Oriented Programming, Debugging, Code Review, Unit Testing, Bash Scripting
- Github, Gitlab, Unity, LaTex
- 8 Years of Japanese Language Experience

## Projects

**Parameterized Maze Generation Algorithm for Specific Difficulty Maze Generation** - *Senior Capstone*
*(January 2022 - May 2022)*

- Individually developed and tested a parameterized maze generation algorithm in C++ to generate diverse mazes with a stretch goal of training a neural network to dynamically generate mazes of a specified difficulty.
- Completed project includes a functional maze generator that utilizes a text based UI, as well as the ability to export mazes as png files. Wrote 1882 lines of code to accomplish this task. Project was 87.3% C++, 12.2% Python, and 0.5% Makefile code.
- Authored a nine page paper in LaTex and presented research to faculty and the wider community.

**Breaking the Lingua Franca of Computer Science: An Analysis of Japanese Based Programming Languages** - *Senior Capstone*
*(August 2021 - May 2022)*

- Researched the background and content of three Japanese based programming languages to see how language of origin influences coding syntax.
- Coded rock paper scissors in each language to provide a simple example of each language that someone unfamiliar with coding could understand.
- Investigated how coding is taught in Japanese schools and language usage statistics within the Japanese industry.
- Authored a multidisciplinary paper covering each programming language, pedagogical principles we can learn from their development, and industry implications, written to be accessible to those who have limited understanding of the covered fields.

**News Feed Web App** - *Earlham College, Richmond, IN*
*(April 2021 - May2021)*

- Worked with two classmates to develop a news feed web application using python, flask, SQL, HTML, and CSS.
- Integrated a scraper API with python backend and SQL database to store article information.
- Implemented tagging system by which articles can be fetched and sorted based on user interest.
- General bug fixing, updated documentation.
- Used Github version control

**Miller Weather Station Assembly** - *Earlham College, Richmond, IN*
*(September 2021 - November 2021)*

- Partnered with a peer to pair weather sensor hardware with a microcomputer and wrote a 30 line bash script to record and process weather data. Added further automation via Cron to collect data every five minutes.
- Co-authored and documented a 3 page user manual for implementation in Earlham College's Icelandic Field Study program.
- Reported progress to project manager weekly.

## Work Experience

**Park Maintenance** - *Park District of Oak Park, Oak Park, IL*
*(December 2022 - Current)*

- Cleaning and maintaining parks and facilities to ensure park standards.
- Working independently with minimal supervision.

**Computer Science Tutor** - *Earlham College CS Department, Richmond, IN*
*(August 2019 - May 2022)*

- Reviewed and debugged multiple students' code, providing feedback for more streamlined and effective solutions.
- Tutored for Python, C, and shell terminal work.
- Graded work while maintaining student confidentiality according to FERPA guidelines.
- Communicated with faculty to correct gaps in student knowledge.

**Research Assistant** - *Earlham College CoLab, Richmond, IN*
*(May 2021 - June 2021)*

- Research on Memory-Limited Heuristic Search Algorithms with faculty and peers.
- Expanded upon a repository with 21,000 lines of code, and replicated algorithms and problem domains from existing research in C++ for performance comparisons.
- Modified 19 files, writing around 2,000 lines of code.
- Acknowledged in the paper *Beam Search: Faster and Monotonic* (https://arxiv.org/pdf/2204.02929.pdf).

**Instructor** - *Mathnasium of Oak Park, Oak Park, IL*
*(January 2017 - July 2018)*

- Provided instruction in basic level math, trigonometry, pre-calculus, and geometry.
- Graded worksheets.
- Gave individual feedback while managing a large group of students while maintaining a friendly and encouraging environment.
- Maintained the floor, cleaning the space at the end of my shift. This included removing trash and cleaning bathrooms.