

Peter Johnstone

Experience

- Aug – Dec 2024 **Co-Founder & CTO**, *Eigofy, Inc.*, Lewisburg, PA (On-site)
- Designed and developed a Chrome extension for instant English–Japanese lookups with spaced-vocab tracking; authored >90% of the code.
 - Integrated AI API calls with prompt engineering to generate in-context definitions.
 - Built infrastructure (Firebase auth, Stripe billing), ensuring stable releases and smooth ops.
- Jun – Aug 2024 **Software Engineer Intern**, *Visual Alpha*, Tokyo, Japan (On-site)
- Built an internal data-update tool adopted for daily use, reducing manual engineering effort.
 - Contributed 3,000+ lines across 45 PRs with reviews and documentation (Python, SQL).
- Jun – Aug 2023 **Software Tester (Intern)**, *Habitto*, Tokyo, Japan (On-site)
- Improved login reliability and regression coverage for a mobile investing app beta by writing and executing automated tests (Appium/Android Studio).
 - Collaborated in a Scrum team with biweekly sprints; triaged issues and tracked team velocity in Jira.

Selected Projects

- Jul – Sep 2025 **Magnus Carblunder (Rust Chess Engine)**, *Open-source*
- Implemented a chess engine (*10,000+ LOC in Rust*) with advanced search (negamax, alpha–beta, iterative deepening).
 - Optimized with pruning (null-move, late-move reductions) and heuristics (history, killer moves), achieving ~2800 Elo in self-play.
 - Verified correctness with perft tests. [GitHub](#)
- May – Jul 2025 **OCR Neural Network in Pure Python**, *Open-source*
- Built a character recognition model **from scratch without NumPy**, implementing matrix ops, ReLU + softmax layers, and SGD training loop.
 - Delivered an end-to-end pipeline with evaluation metrics and interactive quiz mode for human-vs-AI testing. [GitHub](#)
- Oct – Dec 2023 **Chess Engine & Interface (Python + Pygame)**, *Open-source*
- Developed a functional chess engine with move generation, legality checks, and alpha–beta search, integrated into a Pygame GUI.
 - Achieved ~1800 estimated Elo with ~3s average move response time (*1,800 LOC*). [GitHub](#)

Education

- Aug 2022 – May 2026 **Bachelor of Engineering, Computer Science & Engineering**, *Bucknell University*, Lewisburg, PA
(expected) Second Major in Japanese; Activities: Japan Society, Climbing Club, Chess Club, Coding
- Selected Coursework:** Data Structures & Algorithms, Software Design, Team-Based Development, Discrete Structures, Calc-Based Physics & Statistics
- Study Abroad: Nanzan University (Spring 2025)

Technical Skills

- Languages **Rust, Python**, Java, JavaScript, Dart, SQL, HTML/CSS
- Tools Git, VS Code, IntelliJ, Android Studio, Jira, Appium, Firebase, Stripe, Flutter
- Topics Algorithms, Data Structures, Search & Evaluation, Performance Optimization, Testing/CI, GUIs, Prompt Engineering, AI API Integration

Languages

- English Native
- Japanese Fluent; JLPT N1 (Dec 2023)
- German Fluent, Heritage speaker