Nicolás Kennedy

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A broadly curious and engaged professional seeking meaningful work with driven and diverse teams and individuals! I have a passion for software engineering, hardware design, applied mathematics and physics, which I balance with hobbies of martial arts and music.

SKILLS

Languages: C, C++, Rust, Python, Java, JavaScript, TypeScript, HTML, CSS, Scheme, SQL

Technical: Git, AWS, Docker, Node.JS, React.JS, PyTorch, Firebase, Heroku, Google Colab, Vim, Electronics, Arduino, Algorithms and Data Structures, Machine Learning, Linux System Administration (Debian, Alpine, NixOS, Gentoo)

Currently Learning: Haskell, VHDL, Digital Circuit Design, RISC-V, Abstract Math

PROFESSIONAL EXPERIENCE

Research Intern, University of California, Davis (Dr. Ian Davidson) | *Sep 2023 – Present*

- Invented and formalized unsupervised, performant dataset-agnostic systems that explain clusters using text tags
- Modified the Deep SVDD outlier detection system in PyTorch, adding a convolutional variational autoencoder
- Co-author on paper with submission to IJCAI conference in 2024

Research Intern, MIT (Dr. Arvind Satyanarayan) | *May 2021 – Aug 2021*

- Orchestrated pipelines for machine learning experiments and automated research survey collection
  - I took initiative, developed procedures for interfacing with outdated batch compute clusters at MIT
  - Interfaced Linux systems together, proactively wrote documentation for team without explicit guidance
  - Automated research survey generation using Qualtrics, with parsing and storage
- Directed the usage of mission-critical tools for the whole team of Ph.D, M.S, B.S. students

Software Engineering Contract, Alcatraz A.I. | *Nov 2020 – Feb 2021*

- Architected and solely implemented a full-stack realtime web system for sales quotation
  - Constructed a custom, scalable backend using WebSocket and a clean frontend interface in Bootstrap
- Quickly adjusted broad functionality to changes in design constraints and requirements
  - Fast and unexpected changes to product pricing and business pricing models
  - Within a week, I integrated a system that updates without any downtime from Google Spreadsheets written by employees across departments.

Martial Arts Instructor, Vision Martial Arts | *Jun 2018 – Oct 2019*

- Broad responsibility: teaching and evaluating students for rank graduation, handling inquiries and walk-in visits
- Successful real-time negotiation with unhappy and occasionally hostile visitors and parents

PROJECTS / Open Source

Embedded Raytracing, ***Personal Project, 2020***

- Wrote a ray-traced spinning torus in C that uses ASCII characters for shading, rendering into the console
- All mathematics (trigonometry, square roots) implemented from basic arithmetic using numerical approximations

Multiplayer Scalable Board Game, ***Personal Project, 2020***

- Created a multiplayer rendition of the classic board game *Go* entirely in Rust
- Frontend written with Yew, multithreaded backend written from scratch with async Rust

Retrofitting Thinkpads, ***Personal Project, 2018 - Present***

- Flashing custom Coreboot firmware to capable Thinkpads with external soldering, disabling the Intel Management Engine, configuring custom Linux kernels with Gentoo (Achieved RAM usage down to 60 MB on login)

Linux Package Maintainer, ***Open Source, 2021 - Present***

- Became the maintainer of a VEIKK graphics tablet driver package for NixOS after finding it was not available
- Collaboration with thousands of other maintainers and also distribution admins to keep the system functional

EDUCATION

UNIVERSITY OF CALIFORNIA, DAVIS | GPA: 3.958 | *Sep 2022 – Jun 2025*
B.S. Computer Science and Engineering (Dean's Honor List)