

Quinn Colello

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Education

University of California, Berkeley

2023-2027

B.A. Computer Science, B.A. Applied Mathematics (Cluster in Quantum Computing)

Applicable Coursework: Machine Structures, Data Structures and Algorithms, Advanced Algorithms, Probability and Random Processes, Optimization Models, Numerical Analysis, Linear Algebra, Differential Equations, Complex Analysis

GPA: 3.83

Relevant Experience

Lead Simulation Engineer - *Formula Electric at Berkeley*

May 2025 – Present

- Collaborate with mechanical and electrical project teams to construct and implement simulations leading to design decisions with justification in first principles.
- Manage a team of eight to build, run, and optimize simulations under the constraints of team design timelines.
- Develop advanced models to simulate and strengthen vehicle performance across multimodal subsystems including battery discharge, motor torque, suspension geometry, brake behavior, and tire dynamics.
- Write and improve general-purpose point mass lap simulation for optimization of high-level vehicle design.

Simulation Engineer - *Formula Electric at Berkeley*

Feb 2024 – May 2025

- Contributed to development and testing for EV formula-style car to compete yearly with other colleges.
- Collaborated on advanced model using the CasADi non-linear programming library and the bicycle model for vehicle dynamics to solve for optimal lap times.
- Led analysis of tire data to analyze and fit models for dozens of tire variables across millions of data points.

Software Engineer Intern - *Creative Electron Inc.*

May 2023 – Aug 2023; May 2025 – Aug 2025

- Supported development of industrial X-ray control software and custom inspection automation for company clients.
- Streamlined image handling for contracted automation, optimizing performance and reducing cycle time by 65%.
- Optimized application for customer, increasing inspection throughput from 60% to 150% of obligated targets.
- Engineered calibration tool to identify and fix X-ray alignment offsets from manufacturing with only imaging and movement data. Refined alignment accuracy and decreased duration by 90% with only restricted hardware access.
- Built custom applications for product license management, reducing overhead while ensuring dependability.
- Debugged Allen-Bradley PLCs, ensuring seamless integration between user-facing software and machine logic.
- Authored internal and external documentation and developed visual design for customer-facing software.

Student Researcher - *University of California, Berkeley – Kolkowitz Lab*

Jun 2024 – Dec 2024

- Designed and manufactured a three degrees of freedom magnetic field generator for experiments in quantum sensing within nitrogen-vacancy point defects in diamond lattices.
- Updated software to remotely control high-voltage components and automate experimental procedures.
- Programmed control over current in incompatible power supply to ensure electrical consistency.
- Designed circuits to improve safe and reliable control of high current through large magnetic field generating coils.

Projects

- **Self-Playing Tetris**

Web game styled off of Tetris, player-controlled mode alongside an AI algorithm which is capable of playing the game infinitely. Web interface in React.

- **Spotify Playlist Sorter**

Web application written using Python and the Spotify API to gather data from a user's account, accesses internal data to cluster and separate songs into playlists based on characteristics of the songs' moods.

Skills

- **Programming:** Python, Java, C, JavaScript/TypeScript, RISC-V, SQL, MATLAB, Go, React, C#, HTML, CSS, R, Flask
- **Tools:** Arduino, AutoDesk Fusion, LaTeX, Git/GitHub, Qt Designer, Gimp, Adobe Photoshop, Adobe Lightroom, Audacity
- **Miscellaneous:** Soldering, Teaching Experience
- **Hobbies:** Electric Bass, Film, Radio