John Kuehnis

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Education

Brown University Providence, RI

Bachelor of Science in Computer Science, Bachelor of Arts in Applied Mathematics *Aug. 2023 – May 2027*

Relevant Coursework: Data Structures/Algorithms, Computer Graphics, Database Management Systems, Computer Vision, Data Science, Computer Systems Fundamentals, Software Engineering, Foundations of AI, Deterministic Models, Probabilistic Models, Discrete Structures and Probability, Statistical Inference, Intro to Engineering Design

Experience

DriveOS Software Engineering Intern May 2025 – Aug. 2025

NVIDIA *Santa Clara, CA*

- Engineered and deployed an **automated debugging tool** leveraging APIs, MCP servers, and scripts, collaborating with cross-functional FSI and MCU teams to reduce DriveOS module debug time by **50%** (10 to 4–5 days).
- Developed and integrated **build automation pipelines** for embedded systems, replacing **12+ manual commands with one executable**, accelerating release workflows and reducing configuration errors.
- Refactored the DriveOS deployment process by migrating to a centralized **DriveFarm SSH cluster**, enabling **multi-node parallel execution** and improving build reliability across distributed environments.

Software Engineering Intern June 2024 – Aug. 2024

O-Net Communications *San Jose, CA*

- Designed and implemented a **Python-based 800G 8-channel GUI system** with modular page switching and real-time diagnostics for fiber optic transceivers.
- Performed cost analysis on safety provider contracts to assist in optimizing spending, saving **$4,500/year**.
- Automated employee workflows by implementing an **Outlook inbox management tool** with rule-based sorting, reducing email processing time by **30%**.

Computer Science Teaching Assistant Aug. 2024 – Present

Brown University *Providence, RI*

- Provided academic and technical support to **500+ students** across Data Structures & Algorithms (CSCI 200) and Computer Systems Fundamentals (CSCI 300) through recitations, office hours, and debugging sessions.
- Collaborated with instructors to enhance **curriculum design, assignment rubrics, and grading**, improving instructional efficiency and overall student engagement for both courses.

Projects

Gesture-Controlled Robotic Arm | *Python, PyTorch, MediaPipe, OpenCV, Arduino* May 2025

- Developed a real-time **human-to-robot motion control system** integrating Kinect depth sensing, MediaPipe pose tracking, and a custom VGG-16 CNN, achieving **96.3% accuracy** on a **36K-image dataset**.
- Implemented a **2D-to-3D coordinate transformation pipeline** with inverse kinematics and PCA9685 servo drivers, achieving precision in arm motion with latency under **30 ms**.

Data Analysis on Endocrine-Disrupting Chemicals in Food | *Python, SQL, pandas, scikit-learn* Apr. 2025

- Aggregated and normalized **600+ food chemistry datasets** for comparative category analysis.
- Ran **Mann–Whitney U, t-test, and chi-square tests** to uncover phthalate correlations across product groups.
- Applied **ML regression and clustering models** to predict contamination likelihood and visualize impacts.

Slang Language Learning Tool (thelingogenie.com) | *React, TypeScript, Node.js, Firebase* Dec. 2024

- Developed a gamified, full-stack **slang-learning web app** inspired by Duolingo, featuring adaptive lessons, spaced repetition, and progress tracking with Firebase integration.
- Conducted **market research and early user testing** with 10+ participants to refine **UI design and lesson flow**, improving overall retention and engagement.

Technical Skills

Programming: Java, Python, C++, C, C#, SQL, Go, JavaScript, TypeScript, GDScript, Bash, HTML/CSS

Frameworks & Libraries: Qt, PyTorch, TensorFlow, OpenCV, React.js, Node.js, pandas, scikit-learn, JUnit, Maven

Cloud & DevOps: Docker, npm, Google Cloud Platform, Git, GitHub, CI/CD, Agile Methodology

Productivity & Design Tools: VS Code, IntelliJ, Microsoft 365, Unity, Google Suite, Fusion360, Adobe Lightroom