Gabriel Gallo

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Education

University of California, Berkeley May 2026

Bachelor of Science in Electrical Engineering and Computer Science *GPA: 3.61/4.00*

- **Coursework:** Discrete Mathematics and Probability, Introduction to Full-Stack Development, Data Structures and Algorithms, Machine Learning, Introduction to Robotics, Optimization Models in Engineering

Technical Skills

Languages: Python, SQL, C/C++, Java, JavaScript, TypeScript, HTML/CSS
Framework & Libraries: React.js, Node.js, Express.js, NumPy, MongoDB, Django, ROS2
Developer Tools: Git, Cloudflare, Firebase, AWS, Netlify

Experience

Software Engineer May 2025 – Aug. 2025

UNIFIBD *San Jose, CA*

- Led the end-to-end development of a cross-platform mobile application supporting individuals with Crohn's disease, reaching over 5000 users.
- Migrated legacy iOS codebase from Swift to Flutter, enabling a single shared codebase for both iOS and Android and expanding the app's reach by 2x.
- Published and maintained the app on the Apple App Store and Google Play Store, increasing accessibility and visibility across platforms.
- Optimized app performance by reducing load times by 30%, leading to a smoother and more responsive user experience.
- Collaborated with a team of 3 engineers, implementing platform-specific enhancements and conducting cross-device testing to ensure a consistent UX across Android and iOS.

Projects

The IBD Digest | *Flutter, Dart*

- Developed a cross-platform mobile app using Flutter and Dart for IOS, Android, and Web, streamlining deployment and ensuring consistent functionality across platforms.
- Integrated a medical assessment tool (SIBDQ) with robust input validation and local storage, enabling accurate self-assessments and offline accessibility for users.
- Improved cross-platform performance by optimizing animations, implementing lazy rendering, and enhancing error handling, resulting in a more seamless and reliable user experience.

Flow | *Angular, SCSS, TypeScript, Python, Django, MongoDB, AWS, Gemini API*

- Switch seamlessly between email and calendar in an authenticated dashboard with collapsible sidebar navigation
- Secure Auth: Integrated Google OAuth 2.0 login via django-allauth.
- AI-Powered Email Tools: Backend processes email content for summarization, categorization, and event detection using NLP (spaCy, NLTK)
- Built with Django, Django REST Framework, and PostgreSQL, using Celery and Redis for background task processing

TurtleBot Interceptor | *Python, ROS2, OpenCV, YOLO, SLAM, NumPy*

- Developed Python/OpenCV cone detector with color/shape filtering and distance estimation; improved detection precision from 78% to 93% in varied indoor lighting.
- Engineered MPC controller integrating Extended Kalman Filter, Monte Carlo Localization, local grids, and cone detections; reduced intercept time by ~1.2 s and cut path oscillations by ~30%.
- Instrumented visualization for cones, MPC trajectories, and obstacles; cut debugging time during field tests by ~25%.

Treble Boost Effects Box | *SPICE Simulation, Op-Amps, Frequency Filtering, Circuit Debugging*

- Designed and implemented an analog treble-boost amplifier for electric guitar signals, achieving ≥10× voltage gain in the 300 Hz–15 kHz frequency range while maintaining <10× gain at low frequencies.
- Modeled transient and frequency domain behavior using LTspice to validate expected performance (gain ≥ 10 at 1–15 kHz)
- Derived and implemented symbolic transfer function to shape desired gain and frequency response using op-amp topology.