

# Gabriel Mitnick

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## EDUCATION

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**University of California, Berkeley** | Berkeley, CA  
B.S. in Electrical Engineering & Computer Sciences

Expected graduation: **May 2024**  
GPA: 3.96

*Relevant coursework:* Data Structures, Algorithms, System Design, Computer Architecture, Operating Systems, Security, Artificial Intelligence, Computational Photography & Computer Vision, Graphics, Databases

## EXPERIENCE

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**Duolingo, Software Engineer Intern** | Pittsburgh, PA **May – Aug 2023**

- Implemented frontend, A/B tested, & shipped 2 new exercise types on iOS (Swift) for English learners
- Backend & DevOps work in Scala, Java, Python, and Protobuf on essential session generation microservices
- Collaborated with PMs, designers, & learning scientists to balance learning, delight, and business metrics
- Exceeded expectations & completed 4 user-facing projects to improve education for 20+ million MAU on iOS

**Roblox, Software Engineer Intern** | San Mateo, CA **May – Aug 2022**

- Worked on frontend in Luau with React & Redux for cross-platform mobile app with 300+ million users
- Implemented frontend for MVP of off-network friend request links for predicted +10 million user growth
- Communicated cross-functionally with designer & product manager to clarify specs & ensure alignment
- Documented technical architecture of project & improved existing documentation of internal tools

**UC Berkeley EECS – Barsky Lab, Undergraduate Research Assistant** | Berkeley, CA **Aug – Dec 2022**

- Improved software performance for Assistive Technology Group's Vision Correcting Display project
- Ported image filtering algorithms from C++ to OpenCL to enable multi-thread parallelization

**N95DECON, Volunteer Graphic Designer** | Remote **Apr – Jul 2020**

- Assisted international group of scientists studying techniques for decontaminating N95 respirators
- Developed localization pipeline for translating documents about decontamination to 8 languages
- Aided international flow of scientific information to ease the PPE shortage in the early stage of the pandemic

## PROJECTS

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**Spar Star:** Exciting local 2-player jousting game in the web browser (*JavaScript + HTML Canvas*)

**Stylistic Shaders:** Created artistic non-photorealistic rendering effects including toon shading with strokes, a halftone image effect, & a demoscene-style signed distance field fragment shader (*Cg/HLSL + Unity*)

**Worms:** Random abstract art generator with intelligent color picking (*JavaScript + HTML Canvas*)

**Secure File Platform:** Share & revoke file access while guaranteeing confidentiality & authenticity despite malicious datastore by using primitives like private key encryption, MACs, & digital signatures (*Go*)

**Pac-Man Agents:** Implemented AI techniques including neural networks, reinforcement learning, multiagent minimax & expectimax, probabilistic inference, & logical inference to play the game Pac-Man (*Python*)

*Student Organizations:* [IEEE-HKN Honors Society](#), [Mu Chapter](#) (Member), [Berkeleytime](#) (Frontend Developer), [BERK1337 Cybersecurity Club](#) (Member), [DeCadence A Cappella](#) (Webmaster & Concert Coordinator)

## SKILLS

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**Languages:** Python, Swift, JavaScript, C, C++, Java, Scala, Lua(u), Go, HTML/CSS, Sass, GLSL, Cg, R, Spanish

**Other tools:** Git, GitHub, Linux/UNIX, OpenCV, NumPy, SciPy, OpenCL, CI/CD, Jenkins, DevOps, React, Jira, Agile, Test-Driven Development, Responsive UI design, RESTful APIs, Figma, Adobe Photoshop & Illustrator

**Soft skills:** Communication, attention to detail, resourcefulness, creativity, time management, enthusiasm