Joseph M. MacDougall

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Education

University of Pennsylvania — Aug 2023 – May 2027
B.S.E. in Computer Science (GPA: 3.94 | Major GPA: 3.96) — *Philadelphia, PA*

- Minor(s): Mathematics; Data Science & Analytics; Psychology
- Involvement: Alpha Phi Omega Service Fraternity – Elected president of the Beta Pi Class (2024)

Experience

Returning SWE Intern — May 2025 – Present
Switchboard, MD — *Remote*

- Developing a real-time voice-to-voice AI platform for patient calls—enabling live transcription, smart call routing, and automated transfers to improve care-team responsiveness.

Teaching Assistant — Jan 2025 – Present
CIS 1210: Data Structures and Algorithms — *Philadelphia, PA*

- Conduct weekly recitations, record review guides, hold office hours, grade assignments, and develop course materials.
- Appointed to the Written Homework Committee.

Android Engineer — Jan 2024 – Present
PennLabs — *Philadelphia, PA*

- Maintain and develop University of Pennsylvania mobile apps (100k+ users).
- Served as a project mentor to onboard new developers (Fall 2024 onboard cohort).
- Built and launched a mobile subletting marketplace using Google Maps API, enabling 100+ active listings (Spring–Fall 2024).
- Created a mobile homepage feature for group study room booking (Spring 2024).

Autonomous Vehicle Engineer — Sept 2024 – Feb 2025
xLab: Safe Autonomous Systems Lab — *Philadelphia, PA*

- Developed lane detection software for F1Eighteenth (1/18th scale autonomous car).

SWE Intern — May 2024 – Aug 2024
Switchboard, MD — *Remote*

- Led development of two healthcare SaaS web applications.
- Built the **MDAware Demo App** to showcase patient message classification models to clients—used in a Google Ventures pitch and helped drive two contract expansions ($\approx \$400$k ARR pipeline) in its first month.
- Created the **MDAware Pilot Assessment App**, a data-visualization tool for client hospital datasets.

Mobile Developer & Researcher — May 2022 – Aug 2022
NEMOS Lab at the Colorado School of Mines — *Golden, CO*

- Developed an Android biometrics app for fraud/theft detection using SVM models.
- Ported the application to iOS in Xcode.

Skills

Languages: Java, JavaScript, TypeScript, C, Python, Kotlin, Swift, OCaml, SQL
Web & Backend: React, Node.js, GraphQL
Data & ML: TensorFlow, Pandas, Polars, OpenCV
Cloud: AWS (Amplify, Cognito, Lambda, EC2, Chime SDK, Bedrock)
Tools: Git, Android Studio, Xcode
Spoken Languages: English (Native), Spanish (Professional Working Proficiency)

Leadership & Awards

Lockheed CodeQuest: 1st & 2nd place, Rocky Mountain region (2022, 2023)
HPE CodeWars: 2nd & 4th place, Rocky Mountain region (2022, 2023)
Morehead-Cain Scholarship: Finalist (2023)
American Computer Science League: Three-time qualifier for international finals
The Colorado Governor's School: Board member, graduate, and newsletter contributor
Club Director (past): American Computer Science League, Competitive Math, Amnesty International, and Helping our People Eat