Marc Dunand
Software Engineer

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[Website](#)   [Portfolio](#)   [LinkedIn](#)   [GitHub](#)

Education

Carnegie Mellon University *2021 - 2025*

Bachelor of Computer Science and Art

Concentration in Computer Science

GPA: 3.53

Selected Coursework

- 15213: Introduction to Computer Systems
- Great Ideas in Theoretical Computer Science
- Parallel and Sequential Data Structures and Algorithms
- Functional Programming
- Probability Theory for Computer Scientists

Relevant Experience

Software Engineering Researcher | Video and Media Design - CMU | *May 2024 - Ongoing*

- Created an experimental mocap labspace, implemented Vive, Rokoko, and CyanPuppets systems into the space
- Developed workflows in Unity, NDI, ReadyPlayerMe, and MediaWiki for live mocap VR and AR performances.

Skills: Unity, C#, Mocap Systems, NDI Tools, Animation and Rigging, Oculus, Vive, 3D Rendering, Scene Composition

Software Engineering Intern | Soapboxx | *February 2023 - September 2023*

- Developed an extended backend for the Soapboxx website and connected it to image databases, GPT, and image GANs
- Collaborated with Soapboxx and IB5K teams to embed my software using React, enhanced the UX of my implementation

Skills: React, Node.js, Python, JavaScript, HTML, LLMs, GANs, Prompt Engineering, Databases, API Integration, Fullstack Development

Data Science Intern | Amaral Lab, Northwestern University | *March 2020 - August 2021*

- Worked with graduate and postdoctoral students to research microbial assemblies by creating my own computational model of the phenomenon in Python that more accurately predicts growth and collapse of gut microbiomes
- Analyzed model versions to compare behaviors and identify influencing factors (proprietary details not disclosed).

Skills: Python, Matplotlib, Data Analysis, Computational Biology, Systems Modeling, Data Presentation and Communication

Philosophy TA | Dangerous Ideas - CMU | *August 2023 – December 2023*

- Taught multiple classes every week on bleeding edge social, political, and metaphysical issues
- Moderated small and large group discussions, provided one-on-one help, and worked with a group of 16 peers

Skills: Education and Lesson Planning, Public Speaking, Leadership, Communication, MindMup

Software Instructor | iD Tech | *June 2022 - July 2022*

- Taught groups of ten students ages 13-17 how to develop in Unity at beginner to advanced skill levels
- Ported finished projects to Oculus and integrated different control schemes with the oculus controllers

Skills: Unity, C#, Oculus VR, Oculus AR, Education and Lesson Planning, Leadership, Communication

Projects

Collaborative Drawing Machine | Python, OpenCV, vSketch, Axidraw | *January 2024 – May 2024*

- Developed a system where a webcam using OpenCV captures a wavy line hand drawn on paper, guiding a pen plotter to add algorithmically generated doodles like houses, trees, and lakes along the line. This process transforms the hand-drawn line into a landscape with unique topology

Scribble | Python, vSketch, Axidraw | *February 2024 – Ongoing*

- Researched what consistent graphical elements and data encodings emerge from written languages across cultures
- Built a machine that writes generative asemic (without meaning) script in realistic human handwriting external to any human culture

Skills

Languages	Software	Media
Python, Java, JavaScript, C#, C, HTML, Standard ML, x86 Machine Code, Node.js, React.js, OpenCV	Autodesk Maya, Unity, Oculus, Processing, vSketch, GitHub, MediaWiki, TouchDesigner, InkScape, Adobe Suite, P5.js	3D Printing, Pen Plotting, Laser, Ceramics, Wood, Metal, Glass, Paper & Pencil, Worldbuilding, Circuit Architecture