

Aayan Shah

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EDUCATION

Colby College, Waterville, ME – Bachelor of Arts (May 2028)

Major: Computer Science (AI Concentration), Physics | Minor: Mathematics

GPA: 4.15/4.00

Relevant Coursework: DSA, Computer Organization, Modern Physics, Exp. in Modern Physics

Awards: Honorable Mention IPhO 2023, Dana Scholar, Presidential Scholar, Dean's List (FA 24, SP 25)

TECHNICAL SKILLS

Programming: C, Python, Java, Dart, VHDL, JavaScript, Elixir, (HTML/CSS)

Frameworks/Libraries: React Native, TensorFlow, Whisper (OpenAI), ElevenLabs, Hugging Face, NumPy, pandas

DevOps/Tools: Git, GitHub, Docker, NeonDB, Supabase, Clerk, Resend, Windows/Linux, Android, Web

EXPERIENCE

Machine Learning / AI Intern | SureStart

May 2025 – Jul 2025

- 10-week internship in machine and deep learning with TensorFlow & Keras, covering CNNs, RNNs, and transformers.
- Trained and optimized models on 50k+ image/text samples; improved classification scores and runtime efficiency
- Collaborated with industry mentors to analyze scaling strategies; prototyped an AI-driven startup idea, AvayLable.

Data Structures & Algorithms Lab TA | Colby College

Feb 2025 – Present

- Mentored 30+ students weekly, clarifying algorithmic concepts and debugging code; improved lab completion rate and achieved 100% positive feedback.

ITS Student Support Center Technician | Colby College

Sep 2024 – Present

- Provided front-line IT support at the Colby ITS Office for students, faculty, and staff by diagnosing and resolving software, hardware, and network issues across Windows and macOS systems.
- Assisted with classroom and lab technology setup, including projectors, audio systems, and presentation tools.

PROJECTS

AvayLable – College Skill-Sharing App | React Native, Neon PostgreSQL

[GitHub](#)

- Led end-to-end design of a cross-platform app to exchange skills (rides) alongside market research and analysis.
- Built database in Neon PostgreSQL with REST APIs for profiles, chat, and reviews; managed state using Zustand
- Introduced payment system with Stripe, Google Maps API for mapping, with future extension with ML optimized routing

16-bit RISC CPU & Assembler Toolchain | VHDL, Python

[CPU](#) [Assembler](#)

- Designed 16-bit RISC CPU in VHDL with 25+ custom instructions, ALU, branching, recursion, and memory subsystem.
- Built two-pass assembler in Python; converts source to .mif machine code, supporting macros and error detection.
- Simulated and verified programs (Fibonacci, I/O) using Quartus; validated hazard handling & control logic.
- Documented ISA and encoding; established FPGA synthesis flow, enabling reproducibility for future extensions.

Voronoi Game on Map – Algorithm Optimization | Java

[GitHub](#)

- Implemented Voronoi Game simulation and modeled competitive facility placement strategies.
- Designed adaptive heuristics combining vertex weights, neighbor influence, and disruption; 96.95% win vs. greedy
- Optimized routines with careful indexing, cutting runtime by 42%; won 5th place in the entire course.

AI Notetaking App | React Native, Whisper, Hugging Face

[GitHub](#)

- Developed mobile app for live lecture capture; transcribes via Whisper and summarizes via Hugging Face models.
- Implemented systematic plans of future extensions with AI-generated quizzes and spaced repetition reminders

LEADERSHIP

Colby Hackers: Relaunched dormant CS club; organized plans for Git/GitHub workshops, 3D printing parties, weekly coding jams, and hackathons. Built 115+ member community; partnered with faculty/alumni for mentorship.

Colby Robotics: Led quadruped robot build integrating Raspberry Pi, motion, and vision sensors. Attended Robotics Exhibitions as representatives.