Hayden Karas

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EDUCATION

Carnegie Mellon University, Pittsburgh, PA
Bachelor of Science in Computer Science   May 2029
Selected Coursework: 15-122 (Computation), 21-241 (Linear Algebra), 15-151(Mathematical Concepts for CS)

Cranston High School West, Cranston, RI
High School Commissioners Seal Diploma - GPA: 5.06/5.3, Rank 3/41 National Merit Finalist   June 2025
Selected Coursework: Calculus AB/BC, Statistics, Physics E&M, Computer Science A/P, Digital Media
Extra Coursework: CS50x (Computer Science), MITx 6.86x (Machine Learning)

SKILLS

Programming Languages: C, C#, Java, JavaScript, TypeScript, Python, Bash
Software & Tools: Unity, Git/GitHub, Visual Studio, Google Workspace, Linux Terminal
Frameworks & Libraries: ReactJS, NodeJS, NextJS, ExpressJS, Vercel, Prisma, SQL/Postgres

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EXPERIENCE

Brown University, Providence, RI
Research Assistant – Software Development / Data Analysis.   July 2023-August 2023 & July 2024-August 2024
- Created and examined 40+ mass maps of previously collected astronomical images using a gravitational lensing detection program to estimate mass of background galaxies.
- Developed 5 Python/Bash programs to mass collect, calculate, interpret, and plot data from 80+ mass and optical galaxy maps, speeding up data collection 40x.
- Automated the investigation of potential correlation between angle of visible and dark matter within galaxy clusters with probabilities, confidence intervals, and analysis.

Subway, Warwick, RI
Sandwich Artist   August 2023-August 2025
- Managed store operations, processing $1000+ in daily transactions and training 4+ coworkers.

PROJECT EXPERIENCE

haydenkaras.com–Personal Portfolio Website   September 2024-Present
- Developed and deployed a personal portfolio website from scratch using JavaScript, NextJS, Prisma, Supabase, and Vercel stack.
- Utilized a PostgreSQL database to allow for easy additions and changes without hard-coding.
- Migrated previous implementation of website from Express/Node to Next/Vercel, utilized cache and middleware to speed up load times and reduce latency with server-side rendering.

Andromeda–Game Development   September 2023-June 2024
- Programmed gameplay mechanics and systems using C#/Unity, led team of 3 to develop open-world adventure game with Unity 5 and Blender.
- Utilized player testing, game design documents, meetings, and debugging to lead team through development process and competition.
- Presented game at competition, clearly communicating strengths and weaknesses of development process, won state competition, and placed top 10 of 25 teams nationwide for second time.

LEADERSHIP/EXTRACURRICULAR EXPERIENCE

Captain, Math Team - Top senior scorer in state, planned/taught lessons   September 2022-June 2025
Team Leader, Treasurer SkillsUSA - Game Dev 2x State Winner, 2x National Top 10   September 2022-June 2024
Squad Leader, Marching Band - Community volunteer, peer mentor   September 2021-June 2025

AWARDS: RIML Top Senior Scorer, Jae S. Lim Award, SkillsUSA Programming – 2nd Place in State, Mayor Award