PRANAV RAMESH

pranavramesh@college.harvard.edu | (860) 597-8268
Website | LinkedIn | GitHub

EDUCATION

Harvard University | Cambridge, MA — ***Expected May 2026***

John A. Paulson School of Engineering and Applied Sciences: A.B. in Computer Science, S.M. (Concurrent Masters) in Computer Science

- **Cumulative GPA:** 3.92/4.0 | **Extracurricular Activities:** Harvard Tech for Social Good, Harvard Undergraduate Capital Partners, Harvard Computer Society, Harvard Bhangra.
- **Relevant Coursework:** Systems Programming and Machine Organization, Linear Algebra and Vector Calculus, Linear Algebra and Real Analysis I, Discrete Mathematics.

South Windsor High School | South Windsor, CT — ***August 2018 - June 2022***

- Valedictorian | **Cumulative GPA:** 4.46/4.0 | **SAT:** 1580/1600 (Math: 800/800, EBRW: 780/800) | 2022 Coca-Cola Scholar | Harvard Prize Book Award
- 2x AIME Qualifier | **AIME Score:** 11 | **USA Math Olympiad (USAMO) Index:** 219.5

WORK EXPERIENCE

Harvard University | *Computer Science Teaching Assistant* | Cambridge, MA — ***January 2023 - present***

- Grading student assignments and holding office hours for *COMPSCI E-20 Discrete Mathematics for Computer Science* under Dr. Rebecca Nesson.

Art of Problem Solving | *Teaching Assistant and Grader* | San Diego, CA (Remote) — ***May 2022 - present***

- Grading student assignments for computer science courses and serving as a teaching assistant for *Introduction to Programming with Python.*

North South Foundation | *Software Engineering Intern* | Chicago, IL (Remote) — ***January 2022 - June 2022***

- Developed online donations platform using React and Node.js, and implemented transaction processing using Stripe and Braintree APIs.
- Built an authentication system for verified donors to access the payment portal easily and securely.
- Created a scheduling algorithm to allow donors to schedule donations.

EXTRACURRICULAR & LEADERSHIP EXPERIENCE

Harvard Tech for Social Good | *Senior Software Engineer* — ***September 2022 - present***

- Co-developed a web app for OkaySo (React & Node.js, 10,000+ lines of code). OkaySo enables users to ask questions regarding identity, relationships, and more.
- Implemented secure expert authentication and developed core, cache-optimized expert live chat feature for fast messaging.

Harvard Undergraduate Capital Partners | *Sourcing Analyst* — ***September 2022 - present***

- Sourcing early-stage startups and connecting them with prominent venture capital firms.

CodeSavant | *Founder, Author, and Programming Instructor* — ***April 2020 - present***

- Developed a computer science curriculum and taught beginner and intermediate Python programming classes nationwide, raising ~$2,000 for COVID-related causes.
- Published Python and Java programming books on Amazon and created CodeSavant YouTube Channel (~1125 subs/250k+ views).

MetricMix, LLC | *Founder and Mobile App Developer* — ***September 2018 - present***

- (Using Swift for iOS App Development) Developed GeoScholar, a geography quiz app; Scholar.ly, an advanced GPA calculator; Gene Xpress, a protein synthesis simulator; GSEF Official, an economics resource app; and ReadSpeak, an accent translation app.

PROJECTS AND CERTIFICATIONS

Table Tennis CV | Computer Vision-Machine Learning Application — ***August 2021***

- Built a computer vision-machine learning application to track active table tennis gameplay using Python and OpenCV.
- Leveraged frame differentiation and elliptical Hough transform to isolate and track a moving ball in view.
- Trained a machine learning model using the Scikit-Learn library in Python to predict where a ball lands based on the initial return location.

Pillola | Automated Pill Dispenser Prototype — ***July 2021***

- Designed all dispenser parts and conducted structural analyses using Autodesk Fusion 360, meant for use in senior living facilities.
- Used Arduino and C++ to automate pill dispensing, scheduling, and secure fingerprint/keypad authentication.

FIRST Robotics Team | Captain and Lead Programmer — ***September 2018 - June 2022***

- Wrote 35,000 lines of code across hundreds of commits.
- Implemented Limelight vision pipeline to integrate real-time object-tracking.
- Developed path trajectories using Hermite clamped cubic splines with PID feedback control for autonomous path-following.

Java Decaffeinated | Published Book | View on Amazon — ***October 2021***

- Published an introductory Java programming book covering types, control structures, and object-oriented programming concepts.

The Python Starterpack | Published Book | View on Amazon — ***April 2020***

- Published an introductory Python programming book covering types, control structures, and object-oriented programming concepts.

Shortest Paths Revisited and NP-Complete Problems | Stanford Online | Certificate — ***January 2021***

Graph Search, Shortest Paths, and Data Structures | Stanford Online | Certificate — ***December 2020***

Greedy Algorithms, Minimum Spanning Trees, and Dynamic Programming | Stanford Online | Certificate — ***December 2020***

Divide and Conquer, Sorting and Searching, and Randomized Algorithms | Stanford Online | Certificate — ***November 2020***

SKILLS AND INTERESTS

Languages: English (fluent) | Tamil (native) | French (business proficiency)
Programming Languages and Frameworks: Python, C++, Java, JavaScript, React, Node.js, Swift, Dart
Computer/Software: Alexa Developer Console, Autodesk Inventor, C++, Canva, Figma, Firebase, Flutter, Git, GitHub, Homebrew, HTML/CSS, LaTeX, Markdown, Matplotlib, Microsoft Office Suite, Notion, NumPy, Onshape, OpenCV, PyCharm, SoftCover, Visual Studio Code
Interests: Tennis | Piano | Chess | Indian folk dance