

PRANAV RAMESH

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[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 Bhanga.
- **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 Programming Languages Group | *Undergraduate Researcher*

February 2023 - present

- Exploring the incorporation of formal verification into large language models under Professor Nada Amin.

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; [Scholarly](#), 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 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

- 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