RISHAB NARAYANAN

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EDUCATION

High School Diploma Completing June 2027
Saratoga High School Saratoga, CA

GPA: 3.8710 UW / 4.1290 W
SAT: 1550 (790 Math, 760 English)

RESEARCH EXPERIENCE

Summer Research Intern June 2026 – Present
University of Wisconsin, Department of Engineering Physics Platteville, WI

- Modeling 3D printing fiber suspension using smoothed particle hydrodynamics (SPH) in Python, mentored by Professor Gokul Gopal
- Contributing to research on 3D printer nozzle geometries to improve fiber orientation and print quality
- Applied SPH-based numerical modeling concepts to an independent simulation of current and charge transport in electrical circuits

Independent Student Researcher September 2025 – September 2026
Neural Networks Research in Chip Design

- Under mentorship of Stanford researcher Abdulla Kerimov, PhD, developed and evaluated 8 Python/TensorFlow Machine Learning (ML) architectures for Static IR Drop Detection using CircuitNet dataset
- Conducted 10+ literature reviews to compare transfer learning models and models trained from scratch; achieved 0.92 Structural Similarity Index Measure (SSIM) on Feature Pyramid Network (FPN) model
- Submitted for publication to The National High School Journal of Science (NHSJS)
- Extending the framework to dynamic IR-drop prediction using time-dependent power features

ACTIVITIES

Physics Tutor September 2026 – Present
Saratoga High School Saratoga, CA

- Tutoring fellow students in fundamental physics concepts

Volunteer March 2025 – Present
Habitat for Humanity San Jose, CA

- Cutting, sanding, drilling, painting, and assembling wooden parts as part of the Playhouse Build Program
- Working in Habitat ReStore assisting customers, stocking shelves, and unloading donated home merchandise including appliances, furniture, and building supplies

Basketball Player May 2023 – Present
Saratoga High School Saratoga, CA

- 2 years Junior Varsity (JV) and 2 years Varsity as Power Forward
- Varsity team earned 2025-26 Keith Mathews Scholastic award for highest GPA from among 90+ teams

Band August 2023 – August 2026
Saratoga High School Saratoga, CA

- Trumpet player in marching band, Symphonic Wind Ensemble (SWE), Saratoga Symphony Orchestra (SSO)
- Marching band won 2nd place at WBA regional championships in LA at SoFi Stadium
- Concert tour in Japan for 2 weeks performing exchange concerts and music hall performances in Tokyo, Kyoto, Kobe, and Hiroshima

The Stanford Daily High School Tech Workshop June 2025 – August 2025
Stanford University Palo Alto, CA

- Learned web development tools HTML, CSS, and JavaScript, learned user interface (UI) and user experience (UX)
- Applied what I learned to create my personal portfolio website

Sales Assistant December 2023 – December 2024
Saratoga Ace Hardware Saratoga, CA

- Assisted customers, managed inventory, mixed paints, operated cash register, helped train new employees

SKILLS

- ***Programming:*** Python, C++, R, Java, HTML, CSS, JavaScript
- ***ML/Data Analysis*****:** TensorFlow, Keras, NumPy, Pandas, Matplotlib, CNNs, Transfer Learning
- ***Engineering:*** Arduino, ESP32, Printed Circuit Board (PCB) Design, Soldering, Computer-Aided Design (CAD)
- ***Languages:*** English, Spanish, Tamil

RELEVANT COURSEWORK

- Multivariable Calculus, Linear Algebra, Calculus II, AP Calculus AB, AP Statistics
- AP Physics C (Mechanics + E&M), AP Physics 1, AP Physics 2, Chemistry Honors
- Engineering Design and Development, Digital Electronics Honors, AP Computer Science A, Python, C++

AWARDS

- **2026 AP Scholar with Honor:** Awarded for having an average score of 3.25+ on 4 AP Exams
- **2025–26 Keith Mathews Scholastic Award:** Highest Team GPA Among 90+ Teams in CCS
- **2nd Place**: Class 5A, Western Band Association Regional Championships at SoFi Stadium (2024)