

ANISH ROY

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EDUCATION

High School, Archbishop Mitty High School

Class of 2027

Unweighted School GPA: 3.987 **Weighted School GPA:** 4.571

Relevant Coursework:

- **AP Courses, Sophomore (Scored 5 in all AP exams):** AP Physics 1, AP Computer Science Principles, AP Calculus AB, AP U.S. History
- **AP Courses, Junior:** AP Physics C: Mechanics, AP Computer Science A, AP Calculus BC, AP Chemistry, AP Literature & Composition, AP World History
- **Teacher's Assistant, Junior** for AP Calculus AB and Algebra II/Trigonometry Honors for Ms. Brenda Welles
- **Community College Courses (scored A in all):** Principles of Sociology, Introduction to Nutrition Science, Introduction to Personal Health, Introduction to Music, Introduction to Physical Geography

SKILLS

Technical Skills

- **Programming languages:** Python, Java, Javascript
- **Major Python Libraries:** pandas, numpy, scikit-learn, Tensorflow (+ keras), matplotlib, seaborn
- **AI/ML:** basic (linear) models, deep learning, transfer learning
- **Mathematics:** fast-paced, competitive, college-level
- **Small computers:** Raspberry PI, NVIDIA Jetson Nano

Soft Skills: leadership, teamwork, problem solving, work ethic

EXPERIENCE

Research Assistant (Paid), 2024-present

Oct 2024 - present

San Jose State University

San Jose, CA

- Researched with professor Prof. Melody Moh (former chair of CS department) on topics including social network platform for single parents and gender bias in AI

Student Assistant (Paid), 2025

July 2025 - July 2025

San Jose State University WITH Cyber-AI Camp

San Jose, CA

- Student assistant in the WITH Cyber-AI summer camp, helping organize and run the camp (gathering food, organizing hackathon, and preparing certificates)
- Invited talk as a guest speaker

Software Development Fellow, 2025

September 2025 - present

maica.ai

- Worked as a software development fellow at maica.ai, designing and managing various aspects of our product

NSF REU (National science Foundation Research Experiences for Undergraduates)–Paid, summer program 2025

San Jose, CA

- (I was) Paid to research with Prof. Fabio Di Troia on cutting-edge topics in AI/ML + cybersecurity, especially on malware classification

UCI x GATI BEAM (summer program) with scholarship, 2025

Irvine, CA

- Research work under Dr. Akbari for six weeks by analyzing real-time data collected from cardiac arrest experiments on rats

Math Tutor, 2022-present

schoolhouse.world (volunteer)

- Taught high school students Geometry and Algebra II online, impacting 100 learners in 15 different countries

RESEARCH PROJECTS

Wildfire Detection

- Used deep & transfer learning models (CNN, LSTM, DenseNet121, ResNet50) to detect wildfires, achieving an accuracy greater than 96%
- Published in IEEE ICMI: <https://ieeexplore.ieee.org/document/11141196>
- **Anish Roy**, R. Sonth, "Efficient Demand-Response Prediction in Smart Grids using Deep Learning", 12th IEEE Conference on Technologies for Sustainability (Sustech), 2025

Demand-Response Prediction in smart grids

- Predicted the demand of electricity through a real-world, hourly dataset of 16 years using deep learning (GRU, LSTM, CNN), achieving a mean absolute error of 5×10^{-5}
- Published in IEEE Sustech: <https://ieeexplore.ieee.org/document/11025741>
- **Anish Roy**, R. Sonth, "New Efficient Wildfire Prediction using LSTM, CNN and Pretrained Models", IEEE 4th International Conference on Computing and Machine Intelligence (ICMI), 2025

Cyber Summer Camp reflection

- Wrote about the Cyber-AI camp at SJSU at 2025, in which I was a student assistant, and the WITH Cyber camp at 2024, in which I was a participant.
- Accepted in IEEE CARS
- Amith Kamath Belman, M. Li, K. Liu, **Anish Roy**, X. Su, M. Moh, From Raspberry Pi to Nvidia Jetson: Enhancing Cyber Awareness through Cyber-AI Summer Camp for High School Students, IEEE 5th Cyber Awareness and Research Symposium 2025 (CARS'25)

Malware Classification (ongoing)

- Experimented with malware images using various CNN architectures and transfer learning (DenseNet121) in a variety of projects, including image salting (obfuscation)

Social Network Platform for Single Parents

- Proposing, developing (using react native), simulating (through a random graph model), and analyzing (through a Markov model) a social network platform for single parents as well as validating the proposed platform's effects using machine learning.
- Conference paper accepted in IEEE ICOCO
- **Anish Roy**, M. Moh, "On Design and Analysis of Mobile Social Networks: A Prototype for Single-Parents", accepted, IEEE International Conference on Computing (ICOCO) IEEE Computer Society Malaysia's flagship conference, 6-8 October 2025, Kuching, Sarawak, Malaysia.

Sailboat Price Prediction (ongoing)

- Leveraging various machine learning models, including linear models, boosting models, and deep learning models, in order to predict sailboat prices

- Accepted in IEEE ICOCO
- **Anish Roy**, I.E. Dominguez-Keenan, A. Saleh, S. Kodaboina, O. Nasri, M. Barraza, "Efficient Sailboat Price Prediction Using Linear, Boosting and Deep Learning Models", IEEE International Conference on Computing (ICOCO), 2025.

Gender Bias in AI (ongoing)

- Writing a book chapter on gender bias in AI, exploring its importance and possible solutions

Smart Greenhouse

- Developed a smart greenhouse
- Published in ICEIC
- **Anish Roy**, Kostubh, "A New Smart Greenhouse to Cope up with the Adverse Effects of Climate Change: Design and Performance Study", International Conference on Electronics, Information, and Communication (ICEIC), July 26 - 27, 2023, Toronto, Canada. (Earned the Excellent Paper Award

ACADEMIC ACHIEVEMENTS

- Mathematics
 - AIME (American Invitational Mathematics Examination) Qualification with Distinction in AMC 10A and AMC 10B, Freshman and Sophomore
 - BMT (Berkeley Math Tournament) Distinguished Honorable Mention in Algebra Section, Freshman
 - BMT (Berkeley Math Tournament) Distinguished Honorable Mention in both Algebra and Discrete sections, Sophomore
 - Undergraduate Award for Mathematics (Archbishop Mitty High School), Freshman and Sophomore
 - SMT (Stanford Math Tournament) honorable mention in team round and overall (as a team), Sophomore
- Science
 - USACO (USA Computing Olympiad) Silver Qualifier, Freshman
 - Won category of best use of AI in ManeFrame Hackathon, Sophomore
 - Member of a team that got top 5 in NSB (National Science Bowl) Regionals, Sophomore
 - Member of a team that qualified to playoffs in BSB (Berkeley Science Bowl), Sophomore
- Other
 - Presented two papers in IEEE International Conferences, Sophomore
 - AP Scholar with Honor (Collegeboard), Sophomore
 - Represented Archbishop Mitty High School in HSNCT (High School National Championship Tournament), Freshman
 - Captained a Archbishop Mitty High School team in HSNCT (High School National Championship Tournament), Sophomore
 - Won two TQBA (Texas Quiz Bowl Alliance) tournaments, Sophomore

EXTRA-CURRICULAR ACTIVITIES AND ACHIEVEMENTS

- PVSA (Presidential Volunteer Service Award) Gold, 2024
- Participated in CFF (Cystic Fibrosis Foundation) TAD (Teen Advocacy Day), where I met with direct employees of senators to gather support against the reconciliation bill, which would increase medical paperwork, increase copays, and have cuts in Medicaid–2025.

- Shared, in CFRI (Cystic Fibrosis Research Institute), my experiences receiving a CF diagnosis, the challenges of raising awareness among family, friends and health care providers, and the desire to connect with others of South Asian origin in order to help produce a new film on CF in the South Asian Community, 2015 .
- Wrote an article for CFF, sharing how CF impacted my involvement in sports: <https://t.e2ma.net/webview/qzjhxk/145224568ff62b9008f381c319f05b63>, 2015

LEADERSHIP

- Founder and president of Data Science Club (Archbishop Mitty High School)
- Co-president of Competitive Science Club (Archbishop Mitty High School)
- Officer of Computer Science Club (Archbishop Mitty High School)
- Officer of Chess Club (Archbishop Mitty High School)
- Organized AI/ML boot camp series for undergraduate students
 - Spring 2025: March Towards Sustainability Through Code
 - Summer 2025: Exploring Applications of Deep Learning—achieved an accepted paper of the sailboat price prediction out of this boot camp: **Anish Roy**, I. E. Domínguez-Keenan, A. Saleh, S. Kodaboina, O. Nasri and M. Barraza, "Efficient Sailboat Price Prediction Using Linear, Boosting and Deep Learning Models", 2025 IEEE International Conference on Computing (ICOCO) IEEE Computer Society Malaysia's flagship conference, 6-8 October 2025, Kuching, Sarawak, Malaysia.