

John Doe - Resume

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EDUCATION

University of California, San Diego

San Diego, CA

- *School of Physical Sciences:* B.S. in Mathematics and Computer Science (*Expected : June 2025*)
- *Cumulative GPA:* 3.44/4.00
- *Relevant Coursework :* Supervised & Unsupervised Machine Learning, Software Perspective to Computer Architecture, Advanced Data Structures in C++, Computer Organization & Systems Programming, Design and Analysis of Algorithms, Cryptography, Theory of Computability, Computer Organizations & Systems Processing, Graph Theory, Probability & Statistics, Basic Data Structures & Object-Oriented Design, Introduction to Mathematical Reasoning, Software Techniques & Tools Lab
- *Skills :* C, Python, C++, Java, Git, MATLAB, R, LaTeX, HTML/CSS, JavaScript

PROJECTS UNDERTAKEN

Algebraic Geometry and its applications

Feb 2024 – Present

- *Mentor : Prof. Kisun Lee, Visiting Professor, Department of Mathematics at University of California, San Diego.*
- Studied the basics of algebraic geometry including ideals, varieties, Gröbner basis, elimination theory and matroids.
- With this knowledge, tried to visualize the pattern between a random incomplete matrix and the algebraic degree of the graph associated with that particular matrix.

Bash Scripts and UNIX Commands

Oct 2023 – Dec 2023

- *Mentor : Prof. Joe Politz, Department of Computer Science at University of California, San Diego*
- Learnt about JUnit testing, bash scripts, git, vim, moving files using commands such as ssh and scp, UNIX commands such as grep, find, less, etc.
- All these skills helped me create an auto grader which took in a repository containing code and returned a score indicating the successful compilation of code and passing of JUnit tests.

Turing Machines and their Applications

April 2023 – June 2023

- *Mentor : Prof. Mia Minnes, Department of Computer Science at University of California, San Diego*
- Learned about automata theory, Turing machines, regular languages, decidability and undecidability of languages, P vs NP problem, etc.
- Used this knowledge to develop a definite finite automaton that takes in a date in MM/DD format and accepts only those dates that correspond to the zodiac sign – Sagittarius.
- Also developed a Turing machine that traces a specific computable function from $\{a, b\}^* \rightarrow \{a, b\}^*$

VoyTube – A Web-Application :

Oct 2022 – Dec 2022

- Developed a WebApp that, given a YouTube video URL, returns a map with a pin on each location mentioned.
- This will simplify your itinerary-planning: no more Googling places you heard from a video, our WebApp will do it automatically!
- In addition, when you click on a pin, you'll see a link directing you to [booking.com](https://www.booking.com), where you can find hotels for that destination.

LEADERSHIP AND COMMUNITY SERVICE

Tutoring Experience : University of California, San Diego (Department of Mathematics)

- Currently serving as a tutor for Math 20D and Math 20A – a course that covers the foundations of differential and integral calculus of one variable and also deals with differential equations.
- Hold tutoring hours for 6 hours every week and assist TA's during discussion sections.
- Clear doubts the students have during discussion sections and office hours help the students bridge gaps in their understanding of concepts.

Mentoring Experience : University Of California, San Diego (SUMS : Society of Undergraduate Mathematics Society)

- Served as a mentor to two of my peers during my sophomore year. I was part of the mentorship program under the Society of Undergraduate Mathematics Students. We had monthly check-ins during which we discussed college courses, research opportunities and internship opportunities.

Fundraiser for Tranquil Charitable Foundation

- Rendered an hour long Carnatic classical music concert on various social networking platforms – YouTube, Facebook, WhatsApp etc., to raise funds for Tranquil Charitable Foundation and help underprivileged children fund their education.
- Tranquil Charity Foundation is a non-profit trust whose mission is to develop a scalable and sustainable solution to improving educational outcomes for students and alumni of public funded government schools through active local community participation.

HONORS AND AWARDS

- Recipient of **Provost Honors** for six quarters at University Of California, San Diego
- Recipient of Award of Merit in Social Sciences in the ICSE Board Examinations 2019
- Won the first prize in Inquest - a Science Fair held annually in Mumbai, wherein **I created a deep freezer which runs on electricity generated by solar panels. To make it cost effective, made use of solar panels constructed using Compact Discs and Zener Diodes**
- Recipient of General Proficiencies Awards in Math, Science, and literary subjects during all years in my high school