Yash Mehta

Portfolio: devagio.github.io/yash_mehta
Mail: yashovardhanmehta@gmail.com | Github: devagio | LinkedIn: yashmehta

EDUCATION

INDIAN INSTITUTE OF SCIENCE
BS+MS in Physics
With **Distinction**
Jul 2022 | Bengaluru
CGPA: 8.8 / 10.0

KEY COURSES

COMPUTER SCIENCE
Design and Analysis of Algorithms
Machine Learning
Signal Processing
Programming and Algorithms
Computational Physics
Numerical Differential Equations

MATHEMATICS
Introduction to Analysis
Introduction to Linear Algebra
Probability and Statistics
Mathematical Methods of Physics

OTHER PROJECTS

YruRU Website | Demo | Code
Mehta Website | Demo | Code
Sorting Visualiser | Demo | Code
Space Invaders | Demo* | Code
Hand Cricket | Demo | Code

SKILLS

PROGRAMMING
Web Development:
Django • React.JS • JavaScript
HTML • CSS • Tailwind • SQL

Data Science and others:
Python • Python ML / DS Libs.
C • C++ • Julia • FORTRAN

CLUBS AND TEAMS
Athletics • Dramatics • Music
Speed-Cubing • Judo • Debate

MISCELLANEOUS
Rubik's Cube **World Record**
Top Rank on Codewars
Diploma in Tabla

* These links have been optimised only for Chrome

KEY PROJECTS

SOCIAL TICTACTOE | Demo | Code
- A **social network** with a TicTacToe server, authentication, chatting, profiles and other CRUD operations, built with **Django** and **PostgreSQL** on the backend, and deployed on **Railway**.
- Includes an API built with **Django-REST** delivering user and match data.

PORTFOLIO WEBSITE | Demo | Code
- A single-page responsive portfolio web-app built with **React** and **Tailwind**.

TWO-PLAYER CHESS | Demo* | Code
- A chess app with complete chess rules and logic, built with **Python**.

PATH-FINDING VISUALISER | Demo* | Code
- A tool to **animate** various path-finding algorithms, built with **Python**.

RELEVANT RESEARCH EXPERIENCE

INDIAN INSTITUTE OF SCIENCE | Bengaluru
Jul 2021 - Dec 2022 | Advisor: Prof. Prateek Sharma
- **Analysed $\sim$1 Petabyte data** from the TNG simulations API, developed a model for cold gas clouds, and implemented a **segmentation algorithm** on Voronoi tesselation to identify them.
- **Publication**: Y. Mehta, A. Dutta, P. Sharma, D. Nelson, "Hot N Cold Gas in Illustris-TNG..."

INDIAN INSTITUTE OF SCIENCE EDUCATION AND RESEARCH | Mohali
Dec 2020 – Jun 2021 | Advisor: Prof. Jasjeet Bagla
- Developed and implemented a numerical model to **simulate** the evolution of protostars.
- **Publication**: Y. Mehta, J. Bagla, J. Dutta, "Radiative Effects During Star Formation..."

TATA INSTITUTE FOR FUNDAMENTAL RESEARCH | Mumbai
Dec 2018 – Dec 2019 | Advisor: Prof. Sourav Chatterjee
- **Modified the code** of COSMIC-popsynth to generate and evolve binary star systems, and developed **simulations** of a globular cluster's tidal potential around these systems.

MENTORING EXPERIENCE

CALTECH CODE/ASTRO WORKSHOPS | Caltech, Pasadena
2021 - Present | Role: Teaching Assistant
- Mentored $\sim$70 students yearly on **software engineering skills** at **Caltech, USA**.

IOAA SELECTION AND TRAINING CAMPS | HBCSE, Mumbai
2018 - Present | Role: Student Facilitator
- Mentored $\sim$30 students yearly to select and train the **national team** for **IOAA**.

ACADEMIC AWARDS

Year	Rank	Award
2018	Top 30 / 10K+	National Initiative on Undergraduate Science (NIUS) Fellow
2018, 2019	Top 15 / 1000+	Madhava Mathematics Competition Merit List (2x)
2017	493rd / 1.2M+	Joint Entrance Examination
2016	**Int'l. Olympiad**	**Silver Medalist at IOAA**
2016	1st / 50K+	"Best Data Analyst" at IOAA OCSC
2016	42nd / 100K+	Kishore Vaigyanik Protashan Yojana (KVPY) Fellow
2015-2017	Top 250 / 50K+	INMO (2x), INAO (2x), INPhO and INChO Finalist
2015, 2016	**1st / 100K+**	**Technothlon Winner (2x)**
2009, 2013	1st / 100K+	SOF Maths Olympiad Winner (2x)