



Parth Pundalik Pai
Mathematics
Indian Institute of Technology Bombay

22B3305
B.S
Male

Examination	University	Institute	Year	CPI/%
Graduation	IIT Bombay	IIT Bombay	2026	8.74
Intermediate	DPUC	CFAL, Mangalore	2022	95.33%
Matriculation	KSEEB	Vidya Bharati, Bhatkal	2020	98.72%

Scholastic Achievements

- Secured **Karnataka Rank 46 (KCET)**/210k+ candidates *July 2022*
- Secured **All India Rank 3188 (JEE Mains)**/900k+ candidates. *June 2022*
- Secured **All India Rank 3307 (JEE Advanced)**/140k+ candidates. *August 2022*
- Secured **All India Rank 2438 (KVPY SX)** *May 2022*

Technical Skills

Languages	Python, C++
Web Technologies	HTML*, CSS*, Javascript*
Softwares	MATLAB, Autodesk Fusion 360
Libraries	C++: simplecpp Python: NumPy, tensor*
Miscellaneous Tools:	Github*

* under-process of learning

Projects

- Building AI that solves Breakout Genius Game using Reinforcement Learning** | Season of Code *Ongoing*
- Learnt basics of Neural Networks and how they can be extended to Convolutional Neural Nets
 - Implemented libraries like **tensor**, **matplotlib** to model Machine Learning Algorithms like **Logistic regression**
 - Implementing RL model by learning the Probability and Math behind Reinforcement Learning Problems
- Neural Networks and Large Language Models** | Learner's Space UGAC *Ongoing*
- Introduction to Neural Neural Networks and Natural Language Processing Fundamentals
 - Large Language Models with Advanced applications and Model Fine tuning
- Financial Mathematics** | Summer of Science *Ongoing*
- Learnt about Statistics, Probability theory, and Regression Analysis in Financial Models
 - Crisis, Policies, and Public Finances
- Decomposing Matrices for Faster Computation** | IITB Student Satellite Programme *Autumn 2022*
- Learnt LU, QR, Cholesky, SVD, etc, and their applications in **image compression** and **rank approximation**.
 - Wrote the code for these decompositions in **MATLAB** Software
- Designing MPC Controller** | IITB Student Satellite Programme *Ongoing*
- Model Predictive Control (MPC)** when constraints are imposed
 - Modelling the Controller in **MATLAB**
- Mountain Cargo Challenge** | Makerspace Course Project *Spring 2022*
- Prepared a Line-following Robot that can climb inclines with 300gram cargo and come back to the initial position
 - Secured an **AP** Grade (Secured by only 7/700+ students) in the course due to extra functionalities of the Robot

Courses Taken

Computer Science	Computer Programming and Utilization
Mathematics	Calculus I, Calculus II, Linear Algebra, Differential Equations
Physics	Introduction to Classical Physics, Introduction to Quantum Physics
Makerspace	Introduction to Makerspace (Secured AP Grade)
Chemistry	Organic and Inorganic Chemistry, Physical Chemistry
Biology	Introduction to Biology

Extra-Curricular Activities

- NSO training course** *2022-23*
- Completed a 1-year course on Hindustani Classical Flute conducted by **NSO**.
- Organizers in College Festivals** *2022-23*
- Organizer in Techfest, Mood-Indigo and E-Summit and helped in the smooth conducting of different events
- Class Representative for First year UG batch** *2022-23*
- Managing, Leadership Skills and Communication Skills