MOHD SAFWAN

www.safwan.xyz   +91-8770826137   safwaniitb@gmail.com

EDUCATION

Indian Institute of Technology Bombay, *Mumbai, India* — Graduated in June 2022
B.Tech + M.Tech , Electrical Engineering (Communication and Signal Processing) GPA: **8.42/10**

SCHOLASTIC ACHIEVEMENTS

. Secured **All India Rank 457 / Top 0.23%** in JEE Advanced 2017 out of *200,000* students.
. Ranked in **Top 0.12%** students in JEE Main 2017 out of *1.2 million* students.
. Was placed in **Top 1%** in National Standard Astronomy Olympiad and selected for INAO.

WORK EXPERIENCE

Quantitative Researcher — *Millennium Management*   *Jul '22 - Present*
. Working on finding differentiated alpha in US Equities using statistical methods and machine learning.

Reinforcement Learning Intern — *WinZO Games*   *Jan - Jun '22*
. Created a deep reinforcement learning algorithm for learning multiplayer board games via self play.
. Wrote a complete learning framework for generic board games and deployed trained agents in production.

Applied Scientist Intern — *Matching Quality Team, Amazon*   *Summer '21*
. Built multilingual and multimodal deep learning based models to match products with search queries.
. Optimized the training time by **75%** and achieved upto **10%+** gains in F1 scores over multiple locales.

Co-founder, Technical Lead — *Augle AI (augle.ai)*   *Jan '19 - Dec '20*
. Built and deployed multiple Imaging, Vision and AI solutions as APIs to various clients using **AWS services**.
. Managed a team of more than 8 researchers and developers to iteratively improve our solutions.
. **Won** Startup Jalsa 2019 and secured funding at **5.3 Cr** valuation. **Winner** of E Cell's Eureka IITB track.

Finding Images/Videos using a Selfie — *Freelance Project, Reels & Frames (picsniff.com)*   *Summer '20*
. Developed a solution to find all photos and videos of a person from a collection with **95%+ accuracy**.
. Optimized the search time to a **few milliseconds** for searching in 1000 images with multiple faces in each.

KEY PROJECTS

Parallelized Verification of Conjecture for Metric Dimension — *C++, CUDA (Course Project)*   *Spring '21*
. Wrote C++ code to verify the conjecture for metric dimension of a grid graph augmented with one edge.
. Implemented own Hash Set on GPU due to lack of STL library and got **200x** improvement with CUDA.

Tic Tac Toe Learning Environment — *Reinforcement Learning (Course Project)*   *Autumn '20*
. Wrote an open source framework for evaluating game playing agents on tic tac toe game using websockets.
. Added implementation of **Deep Q Network** agent and classic algorithms like MiniMax, AlphaBeta search.

Petyr : An Open Source Python Library — *Self Project*   *Spring '20*
. Developed a fast library for working with 2D geometric transforms with **300+** monthly downloads.
. Wrote unit tests with full coverage with automated tests and build checking at every push using Travis CI.

POSITIONS OF RESPONSIBILITY

Teaching Assistant | Control Systems Lab, Digital Signal Processing Lab.   *2021-22*
Convener, Web & Coding Club | Conducted various boot-camps and competitions for the club.   *2018-'19*
TSS Instructor | Taught 100+ students Python and concepts of Object Oriented Programming.   *Autumn '19*
School of Science | Mentored 4 freshmen in implementing basic DL algorithms from scratch.   *Summer '19*

EXTRACURRICULAR ACTIVITIES

. Volunteered in NSS to teach Mathematics to underprivileged children.
. **Winner** of Cybersecurity Club's jeopardy style Capture The Flag competition 2020.
. **2 Time National Winner**, IPL Auction Competition 2018 & 2019 by Entrepreneurship Cell.
. **Won** TechFest's Coding Challenge Enigma with teams coming from colleges all over India.