



**Pranjal Jain**  
**Electrical Engineering**  
**Indian Institute of Technology, Bombay**

**170070030**  
**B.Tech.**  
**Gender: Male**  
**DOB: 01-06-1999**

Examination	University	Institute	Year	CPI / %
Graduation	IIT Bombay	IIT Bombay	2021	

Pursuing a **Minor in Computer Science and Engineering**

#### PUBLICATIONS

- **Pranjal Jain**, Atul Sharma, Kanak Mahadik, Somali Chaterji, "Prometheus: Transformer Architectures for Configuring Error Correction Tools for Short- and Long-Read Sequencing Technologies" manuscript submitted and under review at **Computational and Structural Biotechnology Journal**
- Michael Roth, Jinkyu Koo, **Pranjal Jain**, Somali Chaterji, "THEIA: Simultaneous learning of individual microRNA-gene interactions and regulatory comodules" manuscript submitted and under review at **Nature Scientific Reports**

#### SCHOLASTIC ACHIEVEMENTS

- Awarded the **KVPY Fellowship** by the Department of Science and Technology, Government of India (2016)
- Received an **AP** grade in **EE236: Electronic Devices Lab** (given to **top 1%** students) (2018)
- Ranked **first** on a Kaggle competition organised through **CS419: Introduction to Machine Learning** (2020)

#### PROJECTS AND INTERNSHIPS

**Secure activity recognition through Federated Learning** (July'20-Present)

*Bachelor's Thesis*

*Guide: Prof. Biplab Banerjee, Prof. Saurabh Bagchi*

*The project is a joint effort with professors from the Department of Electrical and Computer Engineering, Purdue University*

- Supported by a **\$5 million** grant from the **US Federal Government** for research on **secure federated learning**
- Applied **knowledge distillation** on compressed models to mimic larger **3D Channel-Separated Networks**
- Designed the training process to ensure **data privacy** of edge devices
- Ensured **fidelity** of the global model in the event of **collusion** between multiple devices

**Automatic parameter configuration of Genome error correction tools**

(Jan'20-Aug'20)

*Purdue University*

*Guide: Prof. Somali Chaterji*

- Outperformed previous **state-of-the-art Athena**

- Leveraged **Just-in-Time compilers** to reduce inference times by **18x**

**Matsya, Autonomous Underwater Vehicle (AUV)**

(2017-18)

*RoboSub, AUVSI & US Office of Naval Research*

*Guide: Prof. Leena Vachhani, Prof. Hemendra Arya*

*AUV-IITB is an interdisciplinary team which competes at RoboSub, California and at NIOT-SAVE, Chennai*

- Implemented a **PID-based control algorithm** for a **robotic arm**
- Abstracted a sketch for a **Battery Management System** using **CAN (Controller Area Network)**

#### MENTORSHIP AND LEADERSHIP ROLES

**Head | Department Academic Mentorship program, Electrical Engineering**

(April'20-Present)

- Handpicked a team of **35** mentors from **90** applicants after an extensive interview and peer review process
- Restructured the team with a **3 member cabinet** to ensure smooth execution of initiatives
- Addressed issues regarding the unprecedented event of mentoring in an **online setting**

**Institute Student Mentor | Student Mentorship Program**

(July'19-Present)

- **One of 13** third-year students selected based on a rigorous procedure comprising of an interview and peer review
- Mentored **12 freshmen** during the previous tenure

**Teaching Assistant | CH107: Physical Chemistry**

(2018)

- Responsible for conducting weekly doubt clearing sessions for approximately **300 freshmen**

#### CERTIFICATIONS

**Equity Portfolio Management | NSE Academy**

(May'20-July'20)

- Awarded **Grade A** for exceptional performance in the course
- Studied and deployed strategies like **Momentum, Pairs Trading and Value Investing** on a virtual platform

#### EXTRACURRICULARS

##### Sports

- Part of the team that bagged **Gold** in the **Basketball** General Championships, IIT Bombay (2019)
- Part of the team that bagged **Bronze** in the **Hockey** General Championships, IIT Bombay (2019)
- Selected to be a part of the **Inter-IIT training camp** for **Athletics (Long distance running)** (2017-18)
- Selected to be a part of the **Inter-IIT training camp** for **Basketball** (2017-18,2018-19)
- Completed **10 kilometers of swimming** in **8.06 hours** at the annual Swimathon (2019)
- Participated in **Aavhan**, the sports festival of IIT, as a part of the **institute basketball team** (2018)

##### Miscellaneous

- Exhibited AUVs Matsya 4.0 and Matsya 5.0 at the **Technical R&D expo**, IIT Bombay (2017)
- Organized an **online** information session on the importance of **mental health** (2020)

*Scholastic achievements and extracurricular activities are not verified by the Placement Cell*