**Prashul Vaishnav**  200020098
**Chemical Engineering**  **B.Tech.**
**Indian Institute of Technology Bombay**  Gender: Male
DOB: 11/05/2002

| Examination | University | Institute | Year | CPI / % |
|---|---|---|---|---|
| Graduation | IIT Bombay | IIT Bombay | 2024 | |

*Pursuing a **Minor degree** from the Department of Computer Science and Engineering at IIT Bombay*

## PROFESSIONAL EXPERIENCE

| **UPL Limited**<br>Data Analyst<br>[May '23 – Jul '23] | *Contributed to enhancing overall yield efficiency by focusing on digital twin project of **Antracol (UPF-60)** unit* | |
|---|---|---|
| | **Strategy** | • Identified key variables via a comprehensive understanding of **DCS** screens and PFD of the plant<br>• Performed extensive **EDA** & batching; integrating quality and tags data to improve feature extraction<br>• Executed feature engineering using **ACF, PACF** and bucket analysis to identify **34** out of **350+** features |
| | **Impact** | • Leveraged data visualization tools to generate **overlay plots**; got optimal configuration of **9** parameters<br>• Justified the selection of high-impact variable tags & quality features, boosting yield from **85%** to **91%** |

**Lightstone Technologies Group**
C++ Developer
[May '22 – Jul '22]
*Received a **Letter of Recommendation** from the CEO for consistent efforts and being a positive catalyst in teamwork*
• Developed an android app capable of Indoor Sensing & Positioning; working in a disruptive agile team of **2** people
• Optimized locationing algorithms by leveraging **Multi-threading** & **Concurrency**; modularized into C++17 libraries
• Deployed model in C++; trained in Python through an **XML**-based predictive model interchange format i.e., PMML

**Bharat Petroleum**
Chemical analyst
[Feb '23 – Apr '23]
*Collaborated in a **3-students** team to enhance the petrochemical yield | Awarded an **LOR** by RnD head of the plant*
• Analyzed crude oil fractions, calculated refinery unit yields and executed strategic analysis of **10+ refinery units**
• Formulated data-backed configuration of operational parameters with potential **13%** improvement in overall yield

## KEY PROJECTS

**threeD**
Season of Code, WnCC
[May '22 – Jul '22]
• Implemented a **new programming language** in C++, proposed to be integrated into scripting engine of the game
• Programmed a **lexer file** from scratch; tokenized source code into **50+** lexemes and tokens using **OOP concept**
• Designed standard library & **handwritten parser**; deployed supporting tools such as code editors and build systems

**OCR**
WiDS, Analytics Club
[Dec '21 – Jan '22]
• Programmed in Python to import an image and apply **OpenCV** tools; used existing Python framework (**pytesseract**)
• Solved modified version of **MNIST** classification problem to classify image of an alphabet; improved test accuracy
• Performed logistic regression and **neural networks** using frameworks **sklearn** and **keras** to classify letter in an image

**IPL Predictor**
Course Project
[Apr '22 – May '22]
• Analyzed the IPL datasets of matches and deliveries of year 2008-2020 available on Kaggle by performing EDA
• Implemented Gradient Boost, **Random Forest** and **Extra trees Regressor** to predict scores with **77.79%** accuracy
• Curated SVM and **Decision tree Classifiers** to forecast match winners, attaining a prediction accuracy of **88.69%**

**QuesGen**
Self Project
[Oct '21 – Jan '22]
• Programmed a C++ project on Object-Oriented Programming and Structure to create a **Question paper generator**
• Integrated the project with Library management code, utilizing **file handling** to effectively handle user data
• Established a Question Bank of **10K+** entries, the program selectively retrieves questions based on specified criteria

## POSITIONS OF RESPONSIBILITY

| **Cyber Security Head**<br>Institute Technical Council<br>[May '22 – Apr '23] | *Nominated head of a community of **10k+** students of the institute with common interest in cybersecurity and CTFs* | |
|---|---|---|
| | **Leadership** | • Headed a team of 6 to conduct **20+** events; tailored to the cybersecurity interests of the students<br>• Expanded outreach by **8k+** students through successful integration under Institute Technical Council |
| | **Initiatives** | • Curated **website** to integrate all resources; host internal CTFs competitions and maintain leaderboard<br>• Conducted **SEC Talks** and **Hacking via CTF** with Payatu and **Deloitte**, engaging 180+ participants |

**DAMP Mentor**
[Jun '22 – Apr '23]
*A team playing a facilitative, supportive and developmental role for junior students; bridging the faculty-student gap*
• Selected as a part of 40-member team among **98+** applicants based on peer reviews, SOP's and interview process
• Mentored **6 sophomores** in academics & co-curriculars, helping them with the transition and holistic development

## ACCOLADES & EXTRA CURRICULAR

**Scholastic**
• Bagged **silver medal** in cybersecurity as a part of IITB contingent at the **11th Inter IIT-Tech Meet** held at IIT Kanpur
• Achieved **2nd rank** in space quiz conducted by NRSC, Indian Space Research Organization among **100+** students

**Technical Skills**
Programming: C++, Python, SQL, LaTeX, Excel VBA | Software tools: OpenFOAM, DWSIM, Ghidra, MATLAB
Frameworks: Scikit-Learn, Numpy, Pytorch, Pandas, Matplotlib, Seaborn, Keras, Pytesseract, Plotly, C++ mlpack

**NCC & Sports**
• Engaged in **wall climbing** with 6b grade; trekked **Kalsubai peak** and **Chanderi Fort** demonstrating high physical fitness
• Successfully completed a year-long training under NCC including camping and gun firing at **Colaba Firing Camp**

**Miscellaneous**
• Participated in urban group dance at **Annual Insync Dance Show**, IITB captivating an audience of **10k+** attendees
• Assisted as a **Coordinator** to smoothly conduct the flagship event: E-summit'21 of the **Entrepreneurship Cell, IITB**
• Elected as **Head Boy** of St. Anne's Sr. Sec. School, entrusted with upholding discipline and integrity among students