Saksham Kumar

Male, 28 years
MBA, Batch 25 - 27

भारतीय प्रबंध संस्थान मुंबई
Indian Institute of Management Mumbai

Data Analytics | Machine Learning | Research & Development | Chess Player

ACADEMIC PROFILE

Degree	Institute	%/CGPA	Year
MBA	Indian Institute of Management, Mumbai	Pursuing	2027
M.Tech (Mechanical Systems Design)	Indian Institute of Technology, Kharagpur	91.20%	2022
B.Tech (Mechanical Engg.)	Indian Institute of Technology, Patna	88.90%	2020
Class XII	Sir Padampat Singhania School, Kota	80.60%	2015
Class X	Kendriya Vidyalaya Kankarbagh, Patna	95.00%	2013

WORK EXPERIENCE — 35 Months

Eaton — **Engineer** — **Jul'22-Jun'25**
Project Title: Generative Design Using Machine Learning and AI-Based Prognostics & Health Management

Roles & Responsibilities

- Led a data science project for reducing defects in the manufacturing of voltage-dependent resistors for **USA** stakeholders
- Built **GUI-based analytics** applications as Windows **executables** to assess quality KPIs across resistor **production lines**
- Predicted batch defects with **85% accuracy** by training **support vector machine** using production data to boost quality
- Enabled USA stakeholders to **optimize process metrics** in real time using **app-driven insights** for quality upgradation
- Helped digitize resistor line by developing **SQL** database with GUI for unified and accurate data recording across stations
- Supported the team based in **USA** to enhance the design of overcurrent protection device using **AI-based optimization**
- Achieved **80% accuracy** by training **deep learning** model on past designs, identifying key patterns in design refinement
- Optimized new design using model outputs, reducing design lead time by **3 months** and unlocking **$1M** in **cost savings**
- Led and supported engineering projects by **collaborating** with Eaton business groups like electrical and mobility sectors
- Built interactive **dashboards** using household power consumption data for visualizing **EV trends** across counties in USA
- Derived future EV growth insights to support planning of **charging infrastructure** using **power usage visualizations**
- Developed **energy monitoring KPIs** using **Python** for analyzing real-time power consumption in commercial buildings
- Used time series **forecasting** with XGBoost to predict power use, enabling timely adjustments to power generation needs
- Employed machine learning (ML) to optimize **heat sink** designs for devices like inverters etc. by utilizing simulation data
- Trained an **XGBoost** model with less than **5% MAPE** and applied optimization techniques to obtain the optimal design

Achievements

- Achieved two qualified trade secrets (**intellectual property**/IP, equivalent to patents) for employing ML in engineering
- Awarded **Rookie of the Year** at E-LEVATE 2023, the annual award function at EIIC (Eaton India Innovation Center)

INTERNSHIP

National Engineering Industries Ltd. — **Jun'19-Jul'19**
Project Title: Starting and Running Torque in Bearings

Project Details

- Worked on Starting and Running Torque in Bearings under the guidance of **Research and Development Department**
- Analyzed the data set obtained from a bearing torque sensor and suggested ways for minimizing the experimental errors

PROJECTS

Indian Institute of Technology Kharagpur
Project Title: Machinery Fault Diagnosis Using Machine Learning — **52 Weeks**

Project Details

- Devised a **neural network** using experimental data to detect bearing faults along with their locations with **95%** accuracy
- Applied **signal preprocessing** with autoregressive (AR) modeling and spectral kurtosis (SK) to improve fault detection
- Formulated a **convolutional neural network** to predict turbofan engine life for proactive, condition-based maintenance

Indian Institute of Technology Patna
Project Title: Flow Boiling in Microchannels — **43 Weeks**

Project Details

- Worked on high performance **compact cooling** using microchannels to attain a high heat transfer rate in confined space
- Designed, fabricated, and performed experiments on an innovative microchannel for using it in places like electronics etc.

Project Title: Prediction of Failure in Composite Materials Using Python — **10 Weeks**

Project Details

- Built **Python** program to compute the properties of a composite formed after mixing certain amounts of fibre and matrix
- Predicted **failure in composite** using the **developed program**, including failure location under externally applied loads

POSITION OF RESPONSIBILITY

Teaching Assistant	▪ Worked as **TA** at IIT Kharagpur for Mechatronics Lab, helping students by teaching, preparing assignments etc.	2022
Chess Coordinator	▪ Established and led **IIT Patna Chess Club** by organizing training sessions and conducting college tournaments	2019
Event Organizer	▪ Organized Death Race, a remote-controlled car contest at IIT Patna, **managing venue setup** and **event logistics**	2017

AWARDS AND ACHIEVEMENTS

Academics	▪ **3-star coder** on **CodeChef**, and solved **400+ Data Structures and Algorithms** questions on coding platforms	2022
	▪ Departmental **rank 5** out of **46 students** in Mechanical Engineering at IIT Patna, scoring **10/10 SGPA** in 2020	2020
	▪ Secured **AIR 4973 in JEE Advanced 2016**, taken by 1.5 lakh qualifiers from **12 lakh candidates** for JEE Main	2016
Certifications	▪ Completed SQL + Databases Bootcamp (**ZTM**), Linux (**Udemy**), AWS SageMaker (**ZTM**), Power BI (**ZTM**)	2025
	▪ Attended CASML conference at **IISc Bangalore**, gaining insights into applied AI & scientific ML advancements	2024
	▪ Certified Design for Six Sigma (DFSS) **Green Belt** for demonstrating the six sigma principles in a real-life project	2024
	▪ Earned Machine Learning (**Coursera**), Deep Learning Specialization (**Coursera**), TensorFlow Developer (**ZTM**)	2023
Extra-Curriculars	▪ Earned medals for completing cycling and running events, like Pune flo Half Marathon, Ashapura Cyclothon etc.	2024
	▪ **FIDE-rated** chess player with 1522 Elo in rapid and ranked 147 out of 535 players in LBHM Chess Tournament	2023
	▪ Represented IIT Patna in Inter IIT Chess Meet (**rank 18/86**) and won **bronze** at IIT KGP & **silver** at IIT Patna	2017

www.linkedin.com/in/saksham-kumar/