SHASWAT GUPTA

MSc Computer Science @ ETH Zurich; Ex-Data Scientist @ AB-InBev

Education

Swiss Federal Institute of Technology (ETH Zürich, QS Rank #1 in Europe) — Zürich, Switzerland
Master of Science in Computer Science — *Sept 2023 - Present*

- Cumulative GPA during exchange semester **5.24/6**
- Recipient of the prestigious Mahindra Scholarship (KCMET 2023)
- Recipient of the Heyning-Roelli Scholarship
- Recipient of the ETH Zürich Exchange Student Scholarship

Indian Institute of Technology Bombay (IIT Bombay, QS Rank #1 in India) — Mumbai, India
Bachelor of Technology in Mechanical Engineering — *July 2018 - Aug 2022*

- Graduated with the **Highest Cumulative GPA** in my batch **9.6/10**
- Awarded title of **Department Rank 1** out of 165 students; Top **1%**
- Winner of the Institute's **Academic Excellence Award** 2021
- Recipient of the O.P. Jindal Scholarship for **Engineering Excellence** 2022

Skills

- **Programming Languages :** Python, Java, C++, SQL
- **Machine Learning Frameworks :** TensorFlow, PyTorch, Scikit-learn, Keras, Apache Spark
- **Software and Tools :** Docker, Kubernetes, Git, GCP, Azure, Tableau, Power BI

Professional Experience

ETH Zürich | Research Assistant | D-MTEC — *March 2024 - Present*
Joint AI-adoption research project with Zuhlke Consulting and the Chair of Technology and Innovation Management

- Led a comprehensive analysis of **700+** respondents across the US, UK, and DACH regions, uncovering pivotal insights into AI adoption, ecosystem, and usage through survey design and analysis.
- Developed Python automation scripts for data cleaning, merging, and aggregating.
- Built NLP keyword extraction tools, analyzing **700+** open-text responses using **"yake," "rake," and tf-idf**.
- Optimized qualitative coding with **OpenAI's GPT-4-turbo API**, reducing costs by **50%**.
- Automated statistical analysis and visualization for **50+** survey variables, yielding actionable insights.
- Engineered a composite scoring mechanism to quantify AI application impact across **700+** respondents.

AB-InBev | Data Scientist | Growth Analytics Center — *Aug 2022 - Aug 2023*
Engineering data science solutions in a 15+ member team for Finance and Logistics Optimization in the US market

- **Promoted** to Data Scientist from Associate Data Scientist in just **6 months**. Awarded AB-InBev's prestigious **'Pint' Award** and **'Pitcher Award'** among 200+ employees for exceptional work performance.
- Added **$2.4 M** in annual benefit across **2000+** routes by enhancing forecasting accuracy by **15%** by incorporating ensembled models. Took ownership of weekly **forecast refreshes** and iterative UI design.
- Engineered a **Python-based optimizer** for minimizing the logistics cost across **2000+** routes. Led a team of three analysts to enhance the model's accuracy, completeness, and performance and write documentation.
- Developed a **Python-based scenario planner** capable of simulating logistics strategy across the US market with parameterized carrier behaviors and volume forecasts. Estimated annual value benefit **$5 M**.

AB-InBev | Data Science Intern | Growth Analytics Center — *May 2021 - July 2021*
Developed Product Recommendation Engine targeting $ 6M sales growth across 18,500+ customers in Tanzania

- Utilized historical buying behavior analysis to categorize and pinpoint 4 high-growth customer segments.
- Formulated and pitched a **$ 6M** recommendations-based sales enhancement strategy to global directorate
- Devised **15+** interaction scoring mechanisms to quantify the user-item interactions matrix and a comprehensive evaluation framework with **10** metrics like top k precision & recall, diversity, novelty, coverage
- Achieved a **30%** efficacy boost over existing models using model-based (SVD) **collaborative filtering**
- Selected **best performer** among **100+** interns and **offered a full-time role** as an Associate Data Scientist

Glenmark Pharmaceuticals | Analytics Associate | Demand Planning   *Dec 2020 - Jan 2021*

Saved 1000+ man-hours/year by automating the reporting of forecasting KPIs for 5000+ SKUs in 20+ countries

- Engineered the first-ever company-wide **analytics automation** project with **100%** IT compliance
- Reformulated **5** existing KPI calculation frameworks for better accuracy and robustness against outliers
- Achieved a **75%-time reduction** by designing data containers with automated **data-validation** protocols
- Instituted a central cloud-based data repository and implemented **3** automated Tableau calculation-flows
- Designed **3** Tableau dashboards for streamlining CXO-decision making; Awarded a **full-time job** offer

Growth Source Financial Technologies (Protium) | Data Science Intern   *Apr 2020 - July 2020*

Fintech pioneered by ex-MDs of BCG and Goldman Sachs leveraging cutting edge Data-Science for financial services

- Designed an **optimization framework** to consolidate debt for monthly installment reduction and principal increase by unlocking accumulated value from collateral price inflation and loan principal amortization
- Developed and tested a **Loan Recommendation System** on **350+** MSMEs, capable of digesting a loan portfolio and proposing brand new loans for refinancing, complying with GSFT's lending policies
- Used **Google Maps API** and **K-means-clustering** to improve sales-force allocation in **6** metropolitan cities
- Deployed a pipeline to analyze the time-based changes in the yields of **600+** bonds on the stock exchange
- Awarded a **Letter of Recommendation** by the company's **partner** for **excellent work performance**

Research Experience

Capital Investment in Green Hydrogen Technologies   *Apr 2021 - May 2021*

Part of a joint international research project between the World Bank Group and KPMG India Ltd.

- **Forecasted** 10-year hydrogen demand for **3** nations by modeling **10** end-use industries across **3** sectors
- Analyzed **5** competing fuels and **4** cleaner alternatives across Manufacturing, Energy, and Mobility
- Reviewed national renewable energy policy, planned industrial and energy capacity expansion, and public & corporate green initiatives across three nations to quantify readiness to adopt green hydrogen technology

SIR Modelling of SARS-CoV-2 virus in Agriculture Markets   *Aug 2020 - Nov 2020*

Guide: Executive Director and Prof. Sarang Deo, Max Institute of Healthcare Management, Indian School of Business

- Conducted exhaustive **exploratory data analysis** on grain movement in 3,200 agricultural markets
- Used **Polynomial Regression** to model grain procurement volumes in 3,200 markets across 12,800 villages
- Conducted literature reviews to estimate parameters of **SIR model**; received **Letter of Recommendation**

International Conferences

Handpicked to contribute as an International Student Delegate from India to the following global conferences

- Harvard Project for Asian & International Relations
- Princeton University Business Today Conference
- South American Business Forum
- AUA and ICGS Academic Conference

Leadership and Volunteering

Editor, Student Journalism Wing, IIT Bombay : Led **200+** student journalists in a 20-member official Student Journalism body serving **10,000+** students & **650+** faculty and **0.9M+** global online readership

Project Leader, Data Analytics & Visualization Team, IIT Bombay : Published **2** institute-level analytic reports on graduate admissions (online website) and student impact of two covid-semesters.

Entrepreneurship : Designed a vertical farm with **biomass optimization** using **computer vision** with hydroponics, nutrient density, and artificial lighting spectra as variables as a course project in a team of four.

Volunteering : Dedicated **80+ hours** to **community service** under the Sustainable Social Development Department of the National Service Scheme (NSS) teaching young underprivileged students about sustainability.

Mentoring : Guided **70+** new-interns at AB-InBev into successfully navigating the summer internship experience and conducted an analytics interview preparation workshop with **100+** attendees at IIT Bombay

Writing : Co-authored the institute monthly newsletter **'The Knowledge Tree'** and **18** articles published by the Dean-ACR office spanning a readership reach of over **60,000+ alumni** around the globe.