

# SHASWAT GUPTA

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## ETH Zürich

MSc Computer Science : Large Scale AI Engg., Cloud Computing, Deep Learning, GPA: 5.25/6

Sept 2023 – Present

Zurich, Switzerland

## Indian Institute of Technology Bombay (IIT Bombay)

B.Tech. in Mechanical Engineering, Rank 1/165, Gold Medalist, Highest GPA in batch: 9.6/10

July 2018 – Aug 2022

Mumbai, India

## Professional Experience

### AB InBev — World's Largest Brewing Company

\$100B+ global giant with offices in 50+ nations & iconic brands: Budweiser, Corona Extra, & Stella Artois

Aug 2022 – Aug 2023

Bangalore, India

Full Stack Data Scientist (promoted, full-time, 6 months)

- Led US supply chain optimization delivering \$2.4M annual savings via ensemble forecasting (Prophet, SARIMAX, XGBoost)
- Promoted in 6 months, Developed US-wide logistics simulator; led team of 3, 'Pitcher' Award for global impact (1/200+ employees)

Associate ML Engineer (full-time, 6 months)

- Engineered end-to-end ML solutions for 2,000+ US distribution routes; earned 'Pint' Award for Exceptional Performance
- Built production-grade forecasting pipeline with performance monitoring and Gurobi-powered integer programming optimizer

Machine Learning (internship, 2 months)

May 2021 – Jul 2021

- Developed product recommender system for 18,500+ Tanzanian retailers across 50 SKUs, driving \$6M annual revenue growth
- Outperformed existing models by 30%, Awarded Best intern among 100+ peers; received full-time Associate ML Engineer offer

### Growth Source Financial Technologies (Protium)

Apr 2020 – Jul 2020

Data Science (internship, 2 months)

Mumbai, India

- Engineered combinatorial optimization algorithms for MSME debt portfolio consolidation using linear programming techniques
- Built automated pipeline for time-based yield analysis across 600+ debt securities; received partner-signed recommendation

## Research Experience

### Institute for Machine Learning, ETH Zürich

Jan 2024 – Present

Machine Learning Research Projects & AI Engineering

Zurich, Switzerland

- **Large Scale AI Engineering:** Engineered PyRecover module for intelligent checkpointing in distributed GPU training with model parallelization. Implemented HPC techniques and performance profiling, significantly improving cluster fault tolerance
- **SimpleSleepNet:** Developed modular self-supervised contrastive learning framework for sleep stage classification (80%+ accuracy, <1MB model) with GPU acceleration. Evaluated 13 signal augmentations across 5 categories *Software Engineering*
- **DeepSleepBench:** Engineered scalable ML research framework benchmarking 3 training paradigms across neural architectures, benchmarked latent-representations optimizing CNN+Attention pipeline achieving 79.8% accuracy on EEG classification.

### Chair of Technology and Innovation Management, ETH Zürich

Mar 2024 – Present

Research Assistant supervised by Prof. Dr. Stefano Brusoni

Zurich, Switzerland

- **Enterprise ML/AI Adoption Research:** Designed data pipeline and statistical analysis framework for 600+ enterprises. Automated 10,000+ statistical tests with dynamic visualization, reducing analysis time by 80%. *Python, scipy, OpenAI API*
- **Unicode Technical Standards Analysis:** Built document parsing and classification system achieving 96% accuracy across 30+ categories. Engineered distributed workload execution with parallel processing algorithms and optimized LLM integration.
- **Semiconductor Patent Analysis:** Developed asyncio-powered data acquisition system (20x faster) and BERTopic modeling identifying 80+ technology clusters. Visualized technological shifts across 40+ years. *Python, BERTopic, HDBSCAN, PyTorch*.

## Industry Research Projects

2019 – 2021

Research Associate across global academic and corporate organizations

India

- **World Bank, Energy Strategy:** Spearheaded quantitative analysis, economic modeling and 10-year demand forecasting of conventional fuels against cleaner alternatives across three nations. Created market readiness framework for energy policies.
- **Indian School of Business, Epidemiological Modeling:** Conducted advanced SIR modeling & geospatial analysis with Prof. Sarang Deo for 3,200+ agricultural markets serving 12,800+ villages, informing the Government's COVID-19 procurement policy.
- **RephraseAI (Forbes 30-Under-30), AI Video Synthesis:** Contributed to multi-modal AI video synthesis technology combining textual and visual features (acquired by Adobe). Represented startup at AWS AI Conclave '19

## Awards & Distinctions

- **Gold Medalist**, Department Rank 1/165, IIT Bombay (2022)
- Institute Academic Award (Top 2 students), IIT Bombay (2021)
- AB-InBev 'Pint' & 'Pitcher' honors for global impact (2023)
- International Member, **Mensa High IQ Society** (99+ %tile)
- OPJEMS Scholar (Top 3/1100+), IIT Bombay (2021)
- KC Mahindra & Heyning-Roelli Merit Scholar (2023)
- International Student Delegate: Harvard, Princeton (2021)

## Technical Skills

- **Programming:** Python, C++, SQL, Bash/Linux
- **Machine Learning:** PyTorch, TensorFlow, Computer Vision, NLP, Distributed Computing, Performance Profiling
- **MLOps & Cloud:** Git, Docker, Kubernetes, GitHub Actions, AWS (EC2/S3/Lambda), Azure ML, GCP, MLflow
- **Data Engineering:** Pandas, Numpy, Apache Airflow, Apache Kafka, Scipy, Snowflake, PostgreSQL, MongoDB, vector databases