Moumita Basu

☎ +91-8942803540 • ✉ moumitabasu597@gmail.com
LinkedIn: MoumitaBasu | Github: MoumitaBasu

SUMMARY

Results-driven software engineer with 4+ years of experience in Python and Java. Skilled in automation of boring tasks, developing and deploying applications, and leading technical teams. Expertise in CI/CD pipelines, API design, and integrating machine learning models for data-driven decisions. Currently exploring Python for data analysis, optimization, and AI-driven solutions.

KEY SKILLS

Programming Languages:	Python, R, Java, SQL
Frameworks and Tools:	Spring Boot, TensorFlow, Keras, PyTorch, Scikit-learn, Streamlit, Flask, Selenium, Langchain
Data Analysis and Visualization:	Pandas, NumPy, Matplotlib, SciPy, PowerBI
AI/ML Specializations:	Large Language Models, Reinforcement Learning, Computer Vision, Hyperparameter Tuning, Optimization Frameworks, Generative AI
Developing Tools:	Git, Copilot, VS Code, MySQL, MS Excel, Maven, Jira, Jenkins, AWS (Basics)
Soft Skills:	Problem-Solving, Leadership Adaptability, Collaboration, Communication, Results-Driven, Attention to Detail, Critical Thinking, Project Management, Time Management
Linguistics:	English, Hindi, Bengali, German

EDUCATION

Technical Hoschule Deggendorf — **Deggendorf, Germany**
Msc. AI Data Science — *03 2023 - 03 2025*

Amity University — **Noida, India**
MBA IT Management — *07 2020 - 10 2022*

Maulana Abul Kalam Azad University of Technology — **Kolkata, India**
B.Tech Computer Science Engineering — *05 2015 - 05 2019*

WORK EXPERIENCE

Research Intern — **Munich, Germany**
BMW — *05 2024 – 12 2024*

○ Developed and deployed a large-scale multidisciplinary optimization framework using UML modeling tool Umbrello, ensuring a 100% accurate replication from Java to Python.

○ Integrated Python framework with Matlab solvers, implementing multi-threading for parallel execution and improving computation efficiency by 20%

○ Created an interactive post-processing GUI using Matplotlib, Numpy and Tkinter, enabling intuitive data visualization and analysis and reducing user analysis time by 40%.

○ Optimized algorithm execution speed by 30% through efficient Pythonic implementations.

Python Technical Lead — **Bangalore, India**
Tata Consultancy Services — *12 2021 – 03 2023*

○ Automated 20+ manual workflows using Selenium, improving operational efficiency by 50

- Processed and analyzed datasets up to 10GB, reducing data processing time by 35% with optimized Pandas and NumPy scripts.
- Developed interactive Tkinter-based applications, decreasing user task execution time by 50%.
- Built and integrated APIs into workflows, reducing manual data retrieval time by 25%.
- Led a team of 20 developers in building end-to-end CI/CD pipelines, automating script deployment and reducing manual intervention by 80%.
- Conducted 100+ unit and integration tests, achieving 95% code coverage and improving workflow reliability.

Java Developer **Bangalore, India**
Tata Consultancy Services *07 2019 – 03 2023*

- Developed and maintained 10+ Spring Boot microservices, improving system scalability and response time by 20%.
- Automated dependency management with Gradle/Maven, reducing build times by 15% and eliminating 98% of manual errors.
- Implemented CI/CD pipelines with Jenkins, decreasing deployment time by 50%.
- Optimized SQL queries with the database team, improving query efficiency by 10%.
- Resolved 200+ production defects through root cause analysis and debugging, increasing system stability.
- Improved code reliability by achieving 90% unit test coverage using JUnit.

PERSONAL PROJECTS

OCR Receipt Parsing Application ⏻ *04 2024 – 07 2024*
- This application demonstrates OCR with an intuitive web app that allows file uploads, previews, and easy downloads.

Song Lyrics Generator ⏻ *12 2023 – 01 2024*
- Built a **Recurrent Neural Network**-based model for generating coherent song lyrics and poetry using advanced **NLP** techniques.

Diabetes Prediction and Model Comparison ⏻ *05 2022 – 06 2022*
- Compared ML models, including **logistic regression** and **random forests**, with hyperparameter tuning for optimal diabetes prediction.

AWARDS AND CERTIFICATIONS

- Received On The Spot Team Award twice for best performing team at Tata Consultancy Services.
- Certificate in Advanced Excel from Amity University.

Hobbies

- Writing, Singing, Travelling

REFERENCE

- **Sebastian Ellmaier** | PhD Candidate at BMW, Munchen
- Cell: +49-151-601-75317
  Mail: Sebastian.Ellmaier@bmw.de