

DEBANJAN BASU

Senior Software Engineer – ML & Data Systems

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PROFILE

Software engineer with 6+ years building production data systems and web applications. Strong Python expertise with background in data science and ML (time series forecasting, predictive modeling). Recently focused on GenAI agent development and trajectory analysis. Delivered 5-10x performance gains on data pipelines. Physics background in computational methods.

SKILLS

Languages
Python, C, CUDA, Rust, Fortran

ML / Deep Learning
PyTorch, TensorFlow
scikit-learn, XGBoost

LLM / GenAI
Google ADK
Arize Phoenix

Data Engineering
Dask, Celery
Polars, PostgreSQL

Cloud / DevOps
AWS (S3, EC2)
Docker, Kubernetes
GitLab CI, Ansible

EXPERIENCE

Senior Python Developer Aug 2020 – Present
Nexern GmbH, Berlin

- Built and maintained **Django application** for affiliate marketing: SEO link management, web crawlers, and ingestion of large-scale JSON reports
- Led **greenfield GenAI agent projects**: betting odds prediction and automated web scraping pipelines
- Developed **LLM agents** using Google ADK; observability with Arize Phoenix for trajectory analysis
- Achieved **5-10x speedups** via Dask distributed processing, Celery task queues, vectorized operations
- Deployed ADK agents with **Docker** on VPS; S3/MinIO storage; GitLab CI/CD
- Mentored junior developers; conducted code reviews

Data Scientist May 2018 – Jul 2020
KUGU Home GmbH, Berlin

- Developed **predictive heat models** (Fourier equation) and **time series forecasting** with TensorFlow/XGBoost
- Built **online changepoint detection** for anomaly detection in IoT boiler systems
- Co-developed **IoT pipeline** for hundreds of devices; deployed to OpenStack via Ansible
- Ensured **GDPR compliance** in data handling workflows

Research Assistant Aug 2012 – Oct 2016
TU Clausthal, Clausthal

- Extended molecular dynamics codebase (Fortran/C); developed novel phonon band algorithm
- Tutored ab-initio modeling; published in peer-reviewed journals

EDUCATION

B.S-M.S in Physics
IISER Kolkata
2007 – 2012

LANGUAGES

English (fluent)
German (B1)
Hindi (native)
Bengali (native)

LINKS

[GitHub](https://github.com/d3banjan) · [LinkedIn](https://linkedin.com/in/debanjan-basu)
[Medium Blog](https://medium.com/@debanjanbasu)