

Subhadra Mishra

Software Engineer — Backend (Python/Java) — Data Pipelines — Cloud — Scalable Systems

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Education

Indiana University Bloomington, *Masters in Computer Science (GPA: 3.6/4.00)*, **May 2025**

Courses: Cloud Computing, Advanced Databases, Networks, Big Data, Algorithms, Software Engineering

IIT Guwahati, *Masters in Mathematics and Computing (GPA: 7.25/10)*, **May 2018**

Courses: Programming, Data Structures, Probability & Statistics, Linear Algebra

Technical Skills

Languages: Python, Java, JavaScript/TypeScript, C/C++, SQL, R, HTML5, CSS, Shell Scripting

Backend & Cloud: REST APIs, Node.js, Django, Flask, AWS (ECS, EC2, S3, IAM), Docker, Kubernetes, Terraform

Systems & Infra: Distributed Systems, Concurrency, Scalability, Load Balancing, Monitoring, Logging, Linux/Unix, Nginx

Data & Analytics: PostgreSQL, MySQL, MongoDB, ETL, NoSQL, Dask, Pandas, Power BI, Tableau, Query Optimization

Security & Networking: TCP/IP, DNS, HTTP, Encryption, Firewalls, IDS/IPS, OAuth2.0, Compliance

QA & Tooling: Pytest, Selenium, Automated UI/API Testing, GitHub Actions, Jenkins, Agile/Jira

Experience

Handshake AI Solutions LLC, *AI Research Fellow (MOVE Fellowship) — Remote*, **Aug 2025 – Present**

- Evaluated LLM outputs within an established **evaluation pipeline** by generating prompts and analyzing predefined parameters to identify failures, regressions, and edge cases, improving consistency and reliability.
- Developed structured workflows for **data validation, logging, and metrics review** that surfaced edge cases earlier and made model comparison easier to debug, analyze, and tune for performance.

WTIU/WFIU (PBS/NPR), *Broadcast Systems Engineer & Production Data Analyst — IUB*, **Jun 2024 – Present**

- Maintained **99.9% uptime** across 5 channels by managing distributed master-control systems (NControl, BlackMagic, NGest) and configuring proactive monitoring and fault detection for live traffic.
- Built Python + Power BI pipelines analyzing **150+ daily events** to automate QA checks, flag anomalies in schedules and logs, and improve reporting accuracy and operational visibility for engineers.
- Enhanced incident response using SLO-based monitoring (ProTrack/XPlorer/NView), reducing MTTR through faster alert triage, root-cause analysis, and clear handoff to on-call engineering staff.

Indiana University Bloomington, *Graduate Teaching Assistant — Security for Networked Systems*, **Aug 2024 – Dec 2024**

- Led labs for **100+ students** on cryptography, IDS/IPS, protocol analysis, and secure system design, guiding students through debugging, incident simulations, and performance trade-off discussions.

MyEdMaster, LLC, *Software Developer — Herndon, VA*, **Jun 2024 – Aug 2024**

- Optimized backend SQL queries, API endpoints, and React components supporting product development, improving data retrieval and UI responsiveness by **20%**.
- Improved build reliability by refining Git workflows and stabilizing CI/CD pipelines with GitHub Actions, increasing deployment consistency by **25%** across test and production environments.

Bartleby Technologies Pvt. Ltd., *Senior Technical SME — Bangalore, India*, **Jul 2019 – May 2023**

- Developed **Pytest** automation frameworks for UI/API validation, enabling parallelized execution, richer coverage of edge cases, and improving release quality by **40%** for core learner workflows.
- Designed optimized PostgreSQL schemas and SQL workflows for analytics and reporting, reducing latency, simplifying dashboards, and improving decision turnaround by **30%** for operations teams.
- Built scalable **Node.js onboarding systems** automating account setup for 300+ users, integrating role-based permissions and configuration checks, and improving setup time and reliability by **50%**.

Projects

CI/CD Automation Platform 🐙 | React, Node.js, Docker, GitHub Actions **2025**

- Built a full-stack platform simulating **end-to-end pipelines** for build, test, and deployment, demonstrating real-world CI/CD orchestration, rollback flows, and scalable workflow automation.
- Integrated Pytest regression suites and deployed dashboards for **pipeline health, latency, and test coverage**, making failures easier to trace and improving release visibility for developers.

Scalable Cloud Analytics Platform 🐙 | AWS, Dask, Terraform **2024**

- Provisioned AWS ECS/EFS infrastructure via Terraform and orchestrated **distributed Dask clusters** for large-scale data processing workloads and experiment pipelines.
- Improved ML pipeline performance by **71%** via task parallelization, caching, and observability pipelines that tracked resource utilization, failures, and end-to-end execution efficiency.

GHC RSVP Tracker 🐙 | React, TypeScript, Tailwind **2025**

- Developed a responsive web application using React with dynamic filtering, search, and ICS export, optimizing builds through lazy rendering and clean state management for fast client-side performance.

More projects at: github.com/Subhadra-Mishra-iub