Kaushik Karanam

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Seattle, WA – Open to Relocation

SUMMARY

Master's graduate from Northeastern University with 2+ years of experience building distributed backend systems, microservices, and AI/ML pipelines using Java, Spring Boot, Python, and TensorFlow. Proficient in cloud, CI/CD, full-stack development, and automated testing frameworks.

EDUCATION

Northeastern University Boston, MA

M.S. in Information Systems (GPA: 3.6) *Sep 2023 – May 2025*

- Relevant Coursework: Data Structures & Algorithms, Cloud Computing, System Design, Neural Networks, Natural Language Processing

Jawaharlal Nehru Technological University Hyderabad, India

Bachelor of Technology *Jul 2017 – Aug 2021*

TECHNICAL SKILLS

Programming Languages: Java, Python, C++, SQL, JavaScript, TypeScript, Shell

Backend Technologies: Spring Boot, REST APIs, Microservices, GitHub Actions, Docker, Jenkins, CI/CD

Cloud: AWS, GCP, Azure, Terraform, Packer

Machine Learning: TensorFlow, PyTorch, Scikit-learn, PySpark, Airflow, Pandas, NumPy

Frontend Technologies: HTML, CSS, React, Redux, Node.js, Express

Databases & QA Tools: MongoDB, MySQL, Redis, Selenium, Postman, JUnit

EXPERIENCE

Earthlink Hyderabad, India

Software Development Engineer *Oct 2021 – Jun 2023*

- Developed responsive frontend interfaces using React.js, HTML, CSS, and JavaScript for customer-facing applications serving **100,000+ daily users** and internal portals, improving page load times by **40%** and enhancing user experience across web and mobile platforms.
- Built and maintained RESTful microservices using Spring Boot and Java, implementing API testing with Postman and contributing to **75% faster release cycles** through improved code quality and automated deployment processes.
- Designed and implemented automated unit, functional, and UI test suites (JUnit, Selenium) achieving **85%+ code coverage**; integrated test execution into CI/CD pipelines to accelerate feedback cycles and improve release quality.
- Collaborated cross-functionally with UX designers, QA engineers, and product managers in Agile teams to ensure **weekly production releases**, resolving critical issues and delivering features aligned with business objectives.

Bharat Heavy Electricals Limited (BHEL) Hyderabad, India

Engineering Intern *May 2019 – Jul 2019*

- Analyzed turbine-generator telemetry to propose system efficiency optimizations and assisted teams with real-time performance metric interpretation for operational decision-making.

PROJECTS

Cloud Native Java Webapp | Spring Boot, REST, JPA, Terraform, Packer, GCP Link to Github

- Developed a secure user operations application using Java Spring Boot and JPA, exposing REST APIs with integrated Web Security and Bcrypt for password hashing.
- Deployed the application on a CentOS 8 server using custom shell scripts and MariaDB; ensured code integrity through integration testing within a GitHub Actions CI/CD pipeline.
- Automated Google Cloud VPC and subnetwork provisioning with Terraform and enabled seamless infrastructure deployment using Packer following CI/CD validation.

Deep Learning for Precipitation Forecasting | TensorFlow, LSTM, ConvLSTM2D, Python Link to Github

- Designed a hybrid deep learning model combining LSTM with attention and ConvLSTM2D to analyze meteorological time-series and satellite imagery, achieving **77% accuracy** in precipitation forecasting across 24–72 hour windows.
- Addressed extreme class imbalance (93% no-rain cases) using class weighting, improving heavy rain prediction accuracy from **0% to 64%** and outperforming baseline models by **11%**.

Traffic Accident Data Engineering Pipeline | PySpark, ETL, SQL, Talend, Alteryx, Tableau, PowerBI, ADF Link to Github

- Built a scalable ETL pipeline to standardize traffic accident datasets from three metropolitan areas (Chicago, NYC, Austin), processing **3M+ records** with significant data quality issues.
- Applied advanced data cleaning and normalization techniques, including factor encoding, anomaly detection (e.g., speed limit corrections), and derived metric computation, improving overall data consistency by **85%**.
- Architected a modular pipeline with deduplication and star-schema normalization (dimension/fact tables), reducing data redundancy by **40%** and enabling faster analytics queries.