Bipin Gowda

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EDUCATION

North Carolina State University, Raleigh, NC Aug 2024 - Present
Master of Computer Science
Coursework: DevOps, Software Engineering, Design and Analysis of Algorithms, Automated Learning & Data Analysis, Artificial Intelligence, Database Management Systems, Neural Networks, Game Engine Foundations.
BNM Institute of Technology (Affiliated to VTU), Bangalore, India Aug 2016 - Aug 2020
Bachelor of Engineering, Computer Science
Coursework: Data Structures, Algorithms, Operating Systems, Networks, Artificial Intelligence

SKILLS

Languages: Python, Java, KOTLIN, C++, NodeJS, Typescript, ReactJS, AngularJS, HTML, PHP, FastAPI, Shell scripting

Databases and Operating Systems: MySQL, MongoDB, PostgresSQL, Linux, MacOS, Windows

Cloud Platforms: AWS, GCP, Azure, Firebase, Rakuten Cloud Platform

Tools, frameworks & others: Kubernetes, Robin, Helm, Jenkins, Artifactory, Docker, Ansible, Maven, Git, Jira, Grafana, Kibana, Prometheus, Django, REST APIs, ChatGPT, Perplexity, Claude, OpenAI API, APScheduler, Cron

Certification: CKA, CKAD, PCEP, LFS169, Microsoft Certified: Azure Fundamentals & AI Fundamentals, OCI

WORK EXPERIENCE

Software Development Engineer - Rakuten Mobile Inc. Tokyo, Japan Nov 2022 - July 2024

- Delivered a Java Spring Boot platform (59 REST APIs) for Rakuten's Parental Control app, integrating with internal services to improve user safety and partner interoperability.
- Built a Node.js Auto Configuration Server implementing TR-069 for device provisioning, alarms, and FOTA; owned L4 production support and drove end-to-end incident resolution.
- Developed a Node.js backend (9 REST APIs) for product configuration delivery for Rakuten's femtocells; provided L4 support to ensure reliable, low-latency access across services.

Software Development Engineer - DevOps, Rakuten India, Bangalore, India Aug 2020 - Nov 2022

- Operated and deployed a portfolio of Rakuten applications end-to-end: owned CI/CD, release gating, sandbox/staging certification, test sign-off, and production releases. Coordinated cross-team launches, mentored junior engineers, and handled post-deploy monitoring, incidents, and runbook-driven operations.
- Automated functional and non-functional testing for 6 applications with Python, reducing manual effort and increasing release confidence.
- Implemented Jenkins CI/CD pipelines and containerized services with Docker/Kubernetes, standardizing deployments and improving release velocity and stability.

PROJECTS

Game Engine / Networking (Technologies used: C++, SDL, ZeroMQ) Aug 2025 - Present

- We are building a SDL/C++ engine with real/game time (pause/scale), multithreaded input + job system, and ZeroMQ networking: classic client–server, Hybrid P2P (discovery + elected authority), and authority-free consensus (CRSM). Runs smoothly with 3+ clients.
- Individually designing and implementing a 2D platformer on top of the shared engine, integrating timeline controls, collision/physics, and both ServerOnly and P2P modes to showcase the engine's features in a complete game.

Data Science / Data Mining (Technologies used: Python, NumPy, pandas, Surprise, PyTorch, SQL) Aug 2024 - Dec 2024

- Developed a movie recommendation system using Netflix Prize dataset,implementing collaborative filtering techniques
- Implemented Collaborative Filtering (Cosine Similarity, KNN), SVD, and RBM for user clustering and rating prediction
- Conducted data preprocessing and EDA on 100M+ movie ratings from ~480K users, addressed data sparsity.

Machine Learning / Deep Learning (Technologies used: Python, TensorFlow, OpenCV, YOLOv3) Jan 2020 - Aug 2020

- Developed a drone surveillance system using ML/DL to identify violent people through posture analysis, implementing video processing for recorded and live streams.
- Integrated YOLOv3 for efficient human detection and optimized the system to achieve 90% accuracy in violence detection. Awarded best project at the department level and presented a paper.