

Dipan Bag

+1 (763) 900-2740 | dipanbag10@gmail.com | [linkedin.com/in/dipan-bag](https://www.linkedin.com/in/dipan-bag) | github.com/dipan99 | United States

TECHNICAL SKILLS

Languages: Python, Java, Groovy, SQL, PowerShell, JavaScript

Testing & QA: Selenium, JUnit, Spock, Postman, API Testing, Regression Testing, End-to-End Testing, Test Documentation, Root-Cause Analysis, Log Analysis

CI/CD & Tools: Git, GitHub Actions, JIRA, Datadog, Docker, Studio 3T

Cloud & Systems: AWS, Azure, Google Cloud, VMware ESXi, Microsoft Hyper-V, File Systems, Distributed Systems

Databases: PostgreSQL, MongoDB, Redis, ChromaDB, Firestore, Microsoft SQL Server, NoSQL

Backend & Frameworks: Spring Boot, FastAPI, Flask, Streamlit, React, LangChain, LangGraph

AI & ML: PyTorch, OpenAI, HuggingFace, RAG, LLMs, Tool-Calling, Agentic AI, Claude, GPT-5.x, Gemini

Dev Tools & IDEs: Claude Code, Cursor, Codex, VS Code, IntelliJ, PyCharm

EXPERIENCE

IDEaS Revenue Solutions | SDET Intern

Bloomington, MN | May 2025 – Aug 2025

- Developed end-to-end **automated tests** in **Groovy**, **JUnit**, and **Spring Boot**; automated **CI deployment** and **post-deploy validation** in **GitHub Actions**, eliminating manual verification.
- Designed and executed **30+ JIRA-tracked** test cases in **Agile Scrum** covering negative, time-based, acceptance, performance, and **regression scenarios**; validated **API responses** and **data integrity** via **Postman**, **Studio 3T**, and **Datadog** across **Redis**, **MongoDB**, and **AWS**.
- Built container-agnostic **REST API** endpoints in **Spring Boot** via **Docker** to switch runtime connections between external and internal services, reducing setup for manual QA and **automated test pipelines**.

Commvault Systems | Software Development Engineer in Test

Bangalore, India | Jul 2022 – Jul 2024

- Developed **25+ automated tests** with **Python** & **Selenium** for **backend**, **UI** and **browser automation** validating backup and recovery workflows across **AWS**, **Azure**, **Oracle Cloud**, VMware ESXi, and Hyper-V environments.
- Maintained and expanded the **One-Touch test automation suite** by **150%** across **6 release cycles**, adding coverage for new features, updating tests for deprecated workflows, and ensuring **regression** reliability; investigated automation failures through **log analysis** and **RCA** to improve repeatability and recovery workflow validation.
- Designed and executed **test plans** and authored **technical test documentation** across five projects covering acceptance, regression, integration, and edge-case scenarios; performed **manual testing** across physical & virtual systems, multiple OS variants, and auth mechanisms to uncover **critical defects** ahead of production release.
- Automated disaster-recovery ISO generation with Python and **PowerShell**.
- Debugged **70+ customer-reported issues** in **cross-functional collaboration** with developers: reproduced failures, analyzed logs, identified **root causes**, and validated fixes.

Commvault Systems | SDET Intern

Bangalore, India | Oct 2021 – Jun 2022

- Developed and maintained a **Python test automation framework**, adding coverage for new features.
- Executed test plans to validate run reliability; gained hands-on experience with AWS, Windows/Unix file systems, and Selenium.

SELECTED PROJECTS

MinneDigest: AI-Powered News & Podcast Platform | *LangGraph, LangChain, FastAPI, ElevenLabs, Whisper, Ollama*

- Awarded **\$10K AI x Journalism grant**; built a production journalism suite featuring **automated news ingestion**, a **RAG-ready content store**, **PDF-to-news conversion**, and an **AI fact-checking pipeline** that cross-references live search against internal context to produce structured verdicts with confidence scores; reduced content creation time by **85%**.
- Built an end-to-end pipeline with **LLM summarization**, real-time **multilingual translation**, and **sentiment-aware TTS**; engineered a **dual-persona podcast format** where AI agents discuss news conversationally across a white-labeled, multi-outlet publishing platform.

ProdLens: Intelligent E-Commerce Query System | *PostgreSQL, ChromaDB, LangGraph, RAG, OpenAI, LangChain*

- Built a **hybrid database** using **PostgreSQL** (Cloud SQL) and **ChromaDB** (HNSW indexing); achieved **~1ms latency** via B+ tree indexing across **1,024 products**, 122 brands, and **2,500+ reviews**.
- Reduced **API cost** by **80%** via batched **LangChain ETL**; engineered **LangGraph** routing across **Text-to-SQL**, **RAG with metadata filtering**, and conversational flows; applied **HuggingFace BERT** sentiment analysis on top-rated products.

EDUCATION

University of Minnesota, Twin Cities

Minneapolis, MN | Sep 2024 – May 2026

M.S. Computer Science, GPA: **3.78/4.0**

Kalinga Institute of Industrial Technology

Bhubaneswar, India | Jul 2018 – May 2022

B.Tech. Computer Science & Engineering, GPA: **9.60/10.0**