Memphis, TN
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# Aashish Dhakal

Software Development Engineer

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## Skills

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|---|---|
| **Languages & Frameworks** | Python, Java (Spring Boot), TypeScript (Angular), C++, JavaScript, React, HTML/CSS |
| **Tools & Platforms** | Git, Linux, Docker, REST APIs, CI/CD, Google Cloud Platform (GCP), Jira, SonarQube, Agile methodologies |
| **Databases & Libraries** | SQL, PostgreSQL, MongoDB, Pandas, NumPy, PyTorch, TensorFlow, Matplotlib |

## Experience

**Junior Software Developer** **Jul 2024 — Dec 2024**
*C Spire* *Ridgeland, MS*

- Maintained and extended frontend/backend logic for shared service modules used across C Spire's home service network, enabling consistent data display and interaction for **1M+ customers** using **Angular and Spring Boot**
- Resolved **300+ SonarQube issues** across the enterprise repository by refactoring modules to reduce cognitive complexity, remove duplicated logic, and improve maintainability and performance
- Increased **frontend test coverage** from **65% to 87%** across the enterprise codebase by writing **Jasmine unit tests** for new and previously untested modules
- Identified and resolved a **backend API** vulnerability that returned sensitive customer data by applying request-scoped **DTO filtering** and restricting exposed fields in the controller layer
- Contributed to **Agile sprints using Jira** by supporting **sprint planning, code reviews, and QA testing** to ensure biweekly feature releases with minimal defects

**Software Engineering Intern** **May 2023 — Aug 2023**
*Greenserv Inc.* *Oxford, MS*

- Developed **ETL pipelines in Python** to clean and standardize **100K+ medical waste management records**, **resolving 20K+ inconsistencies** using custom validators and transformation scripts
- Designed normalized relational schemas and wrote complex SQL queries to support migration of operations data from master dataset (CSV format) to **Azure SQL Database**, improving performance and scalability of backend systems
- Built route optimization dashboards using **Matplotlib and Excel** by analyzing service schedules and distance matrices, contributing to **$130K in annual savings** through reduced fuel and labor costs

## Projects

**NavAlone (HackHarvard Winner)** **Oct 2023**
*HackHarvard 2023* *Cambridge, MA*

- Co-led development of an AI-powered memory aid for dementia patients using **OpenAI, PyTorch, and Google Cloud Speech APIs**
- Built an Angular interface for caregivers to upload memories and schedule personalized messages
- Awarded "Best First-Time Hack" **out of 300+ teams** for innovative application of AI in healthcare

**Deep Learning for NLP, Image Classification, and Generative Modeling** **Jan 2025 — Present**
*Independent Research Projects* *Oxford, MS*

- Developed **MLPs, CNNs, and RNNs (GRUs, Transformers)** from scratch using **NumPy and PyTorch**, achieving **90%+ accuracy on MNIST/CIFAR-10** and generating coherent sequences over **20+ training epochs**
- Conducted ablation studies on **GRU gating and activation functions**, improving training stability and convergence by **18%**
- Built **Seq2Seq translation models** and **Variational Autoencoders (VAEs)** for generative modeling; achieved **BLEU scores up to 0.91** and visualized latent space patterns
- Documented experiments with Matplotlib and shared final reports with peer reviewers for reproducibility and feedback

**Autonomous Multi-Vehicle Coordination System** **May 2024 — Apr 2025**
*Raytheon Autonomous Vehicle Competition Finalist* *Oxford, MS*

- Programmed UAV–UGV coordination using **Python, OpenCV, and real-time telemetry (LiDAR, GPS)**
- Developed modular flight algorithms and **computer vision** logic for **precision landing and object detection**

## Education

**Bachelor of Science in Computer Science (Honors)**, *University of Mississippi* Aug 2021 — May 2025
*Minors: Mathematics & Manufacturing Engineering* *GPA: 3.82 / 4.00*
*University Hall of Fame Inductee (Top 10 graduating seniors across the university for leadership, achievement, and service)*
**CodePath** – TIP102 (Enrolled, Summer 2025), WEB102 (Self-paced, Spring 2025), TIP103 (Self-paced, Summer 2024)

## Leadership & Programs

**President, Coding & Interview Prep Club** – Led **weekly** technical workshops and mock interviews for **100+ members**
**Co-Founder & Director, HackBeta** – Organized **two university-wide hackathons** and grew the event to **200+ participants**
**Teaching Assistant, CS Department** – Mentored **70+ students** in data structures and algorithms through labs and office hours; helped redesign lab materials, contributing to a **1.5-grade average improvement** across supported sections