

Dipen Kumar Maheshwari

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EDUCATION

University of Alberta

Bachelor of Science Honors in Computer Science

Edmonton, AB

Expected: December 2026

Relevant Coursework: Software Engineering, Data Structures & Algorithms, Relational Database Management, Machine Learning, Artificial Intelligence

EXPERIENCE

Machine Learning Engineer Intern

SAP

Jan 2025 – Present

Vancouver, BC

- Engineered an end-to-end unsupervised **NLP** pipeline on **Azure Databricks** to process **~38k** raw tickets, automating theme discovery and reducing unique messages by **~85%** via **FAISS**-based deduplication.
- Developed robust text preprocessing workflows with **NLTK/Spacy**, that **reduced noisy data by ~15%**, enhancing model input quality.
- Deployed **LLMs (GPT-4o/Gemini)** with structured Pydantic outputs to categorize tickets, contributing to nearly a **60%** reduction in issue resolution time.
- Collaborating with cross-functional teams in an **Agile environment** to align the ML model with **business needs** and integrate findings into ticket management workflows.

Software and Research Intern

University of Alberta - ANCL

May 2024 – June 2024

Edmonton, AB

- Led the **containerization** of autonomous navigation systems using **Docker**, reducing development environment setup time by **50%** and enhancing system reliability.
- Refactored autonomous navigation algorithms in **ROS, Linux, C++, and Python**, improving code readability and reducing runtime errors.
- Implemented **Git** and **GitHub** version control practices, including branch protection and pull request reviews, reducing merge conflicts.

PROJECTS

SpotLotto - Event Lottery System | *Java, Android Studio, Firebase, JUnit, Git, GitHub* | [GitHub](#)

- Built an Android app using **Java** and **Firebase** for real-time data management, geolocation verification, and user interactions, achieving 95% test coverage with **JUnit** through test-driven development and design patterns.
- Led a **6-member Agile team**, conducted requirements analysis, **UML modeling**, and implemented CI/CD pipelines for iterative improvements, ensuring streamlined development and deployment.

UniWays - Google Hacks Winner | *Next.js, React, TypeScript, Prisma, PostgreSQL, Google Maps APIs* | [GitHub](#)

- Built a full-stack campus navigation app with **Next.js, React, and TypeScript**, reducing student travel time by **20%** via **Google Maps API** and real-time route optimization.
- Designed **REST APIs** with **Prisma** and **PostgreSQL**, incorporating **OAuth** for enhanced data protection.

Bloom.ai | *Next.js, React, TypeScript, NextAuth, TailwindCSS, MongoDB, Zod, Gemini-AI API* | [GitHub](#) | [Live](#)

- Developed an **AI-powered** anonymous full-stack feedback platform, reducing message composition time by **40%** through **Gemini-AI LLM** integration.
- Developed a secure backend authentication system using **MongoDB, NextAuth, and Zod**, enhancing validation and security.

Classification on NotMNIST-RGB and NotMNIST DL using CNN | *Python, PyTorch* | [GitHub](#)

- Engineered a convolutional **neural network deep learning model** with modified **LeNet architecture**, achieving **97.5%** accuracy in image classification; optimized **object detection** on NotMNIST-DL dataset to **82.8%**.

TECHNICAL SKILLS

Languages: Python, JavaScript, TypeScript, Java, Go/Golang, C/C++, SQL, NoSQL, HTML, CSS

Frameworks/Libraries: Next.js, React.js, Node.js, Express.js, Tailwind CSS, LangChain, Numpy, Pandas, PyTorch

Developer Tools: Git, GitHub, VS Code, Android, Linux/Unix, Docker, Azure Databricks, Jira

Databases: MongoDB, MySQL, SQLite, Firebase, PostgreSQL