

Dipen Kumar Maheshwari

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EDUCATION

University of Alberta

Bachelor of Science Honors in Computer Science

Edmonton, AB

Sep 2022 - Dec 2026

Relevant Coursework: Software Engineering, Data Structures & Algorithms, OOP, Relational Database Management, Machine Learning, Artificial Intelligence, Systems Programming, Computer Organization and Architecture, Statistics, Reinforcement Learning, Image Processing

Honors and Awards: 1st Place Winner - GHacks Hackathon (UniWays) | Dean's Honor Roll - University of Alberta | International Admission Scholarship & Regional Excellence Scholarship - University of Alberta

EXPERIENCE

Machine Learning Engineer Intern

SAP

Jan 2025 – Present

Vancouver, BC

- Developing a **digital assistant** for SAP Partners, utilizing **Flask** to design backend APIs and integrating **LLMs (GPT-4, Llama), LangChain, and RAG** to create scalable, fine-tuned solutions aimed at reducing partner ticket queries by up to 40% and improving response times by 50–60%.
- Enhancing and fine-tuning an existing **ML model** for partner ticket categorization, applying advanced **NLP** preprocessing and optimization techniques to boost accuracy and efficiency.
- Designing and implementing robust workflows for **Generative AI** applications on **Azure Databricks**, leveraging CI/CD pipelines to streamline deployment and ensure scalability.

Software and Research Intern

University of Alberta - ANCL

May 2024 – June 2024

Edmonton, AB

- Developed and deployed **Docker-based containerized solutions**, reducing setup time by **50%** and boosting system reliability.
- Optimized and debugged autonomous navigation algorithms in **ROS, Linux, C++**, and **Python**, enhancing performance and scalability.
- Applied **Git** and **GitHub** version control best practices, facilitating collaborative development, efficient project tracking, communication, and streamlined CI/CD workflows.

PROJECTS

SpotLotto - Event Lottery System | *Java, Android Studio, Firebase, JUnit, Agile, Git, GitHub, CI/CD* | [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** database, enabling efficient pathfinding data access and enhanced security with **OAuth**.

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.
- Built a robust backend with **MongoDB, NextAuth** and **Zod** validation, optimizing authentication speed by **30%**.

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, C/C++, SQL, NoSQL, HTML, CSS

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

Developer Tools: Git, Github, VS Code, Android, Linux/Unix, Docker, Azure Databricks, JUnit

Databases: MySQL, SQLite, MongoDB, Firebase, PostgreSQL