

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, RDBMS, ML, AI, RL

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

SAP — Machine Learning Engineer Intern

Vancouver, BC | Jan 2025 – Present

- Developing an unsupervised **NLP model** to analyze and categorize partner tickets based on semantics, using transformers like **SBERT** expected to **reduce ticket approval time by up to 60%** through automated categorization and prioritization..
- Conducting extensive **exploratory data analysis (EDA)** on **Azure Databricks** to understand ticket distribution patterns, refine feature engineering, and enhance clustering effectiveness.
- Maintaining **comprehensive documentation** and internal wiki updates for model development, data preprocessing steps, and decision rationale to ensure reproducibility and knowledge sharing.
- Collaborating with cross-functional teams in an **Agile environment** to align the ML model with **business needs** and integrate findings into ticket management workflows.

University of Alberta — Software and Research Intern

Edmonton, AB | May 2024 - June 2024

- Led the **containerization** of autonomous navigation systems using **Docker**, reducing development environment setup time by **50%** and boosting system reliability.
- Refactored autonomous navigation algorithms in **ROS**, **Linux**, **C++**, and **Python**, improving code readability and reducing runtime errors.
- Applied version control with **Git** and **GitHub**, implementing branch protection rules and **PR review processes** that reduced merge conflicts by **40%**.

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**, optimizing 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