

Dipen Kumar Maheshwari

+1-780-708-5514 | dipenkum@ualberta.ca | [linkedin.com/in/dipen-kumar](https://www.linkedin.com/in/dipen-kumar) | github.com/dipenkumarr | [Portfolio Website](#)

EDUCATION

University of Alberta

Bachelor of Science Honors in Computer Science – (GPA: 3.6 - First Class Standing)

Edmonton, CA

Sep 2022 – May 2026

Relevant Coursework: Python and Systems Programming, Database Management, Software Engineering, Object Oriented Programming, Computer Organization and Architecture, Machine Learning, AI, Data Structures & Algorithms, Linear Algebra, Statistics, Image Processing

EXPERIENCE

Software and Research Intern

May 2024 – June 2024

University of Alberta - ANCL

Edmonton, AB

- Led the development and collaborated with cross-functional teams to deliver containerized solutions using **Docker**, **reducing setup time by 50%**.
- Tested and optimized autonomous navigation algorithms, focusing on security, performance, and scalability using **ROS, Linux, C++ and Python**, ensuring code scalability and readability.
- Applied **test-driven development** and version control best practices using **Git** and **GitHub**, enabling seamless team coordination and effective project management in a fast-paced environment.

PROJECTS

Event Lottery System | *Java, Android Studio, Firebase, JUnit, Agile, Git, GitHub, CI/CD* | [GitHub](#)

- Developing a full-featured **Android application** for an Event Lottery System using **object-oriented design**, integrating real-time data storage via **Firebase** for user management and **geolocation verification**.
- Leading a 6-member team using **Agile Scrum methodologies**, conducting **requirements analysis**, **UML modeling**, and test-driven development, ensuring **continuous integration** and **continuous deployment** (CI/CD) with iterative improvements.
- Applying **design patterns**, **refactoring**, and utilizing **version control** with Git and GitHub, ensuring the project's **scalability**, **maintainability**, and seamless team collaboration in a fast-paced environment.

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

- Led a team to build a full-stack campus navigation app using **Next.js, React.js, and TypeScript**, significantly reducing students' travel time by up to 20% with **Google Maps API integration** and pathway suggestions.
- Designed **REST API architecture** for handling user schedule data and efficient real-time mapping queries, integrated with a Prisma-managed **PostgreSQL** database.
- Implemented **secure user authentication** with Clerk **OAuth** and built a responsive interface using TailwindCSS, enhancing user experience with **precise geocoding**.

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

- Developed a **secure full-stack anonymous feedback application** with **AI-powered message suggestions** using **Google's Gemini-AI API**, built with Next.js, React.js, and TypeScript.
- Implemented robust backend with **MongoDB** for data persistence, **leveraged NextAuth for secure authentication**, custom server middleware for enhanced security, and **Zod** for type validation, while crafting a responsive UI using Tailwind CSS and shadcn/ui

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

- Engineered a **modified LeNet CNN deep learning model for high-accuracy classification**, achieving 97.53% accuracy through optimized architecture and weight initialization for **large-scale datasets**.
- Enhanced object detection** using sliding window detection on the NotMNIST-DL dataset, achieving a detection accuracy of 82.8% and classification accuracy of 97.53%.

SurfWeb RAG-Based Web Interaction Tool | *Next.js, Redis, Vector, Vercel AI, Tailwind CSS* | [GitHub](#) | [Live](#)

- Designing a **scalable web application** enabling chat-based website interaction using **custom vector databases** and **Redis** for high-speed data access, ensuring efficient content retrieval and enhanced user experience with **Tailwind CSS** and **Vercel AI SDK**.

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, Numpy, PyTorch

Developer Tools: Git, Github, VS Code, Android Studio, RTK, NPM, Postman, Linux/Unix, Docker, AWS, JUnit

Databases: MySQL, SQLite, MongoDB, Firebase PostgreSQL

HONORS AND AWARDS

GHacks Hackathon - Winner 1st Place (UniWays)

2024

University of Alberta - Faculty of Science - Dean's Honor Roll

2023-24

University of Alberta - International Admission Scholarship & Regional Excellence Scholarship

2022