Jayesh Kumar Goyal

1-825-889-8101 | kumarjayesh012@gmail.com | linkedin.com/in/jayeshkumargoyal | github.com/jayeshkumargoyal | Portfolio

EDUCATION

University of Alberta   Edmonton, AB
Bachelor of Science in Computer Science (Honours)   *Expected: May 2027*
- Deans Honor Roll (2023-2025) | GPA: 3.8/4.0
- Relevant Coursework: Software Engineering, File and Database Management Systems, Machine Learning and Artificial Intelligence, Computer Organization and Architecture, Data Structures and Algorithms

EXPERIENCE

Software Engineer Intern   May 2025 – Present
PMAssistant.ai   *Edmonton, AB*
- Implemented **FastAPI** services and integrated with the **WordPress** site via **REST/webhooks** and **React** widgets, reducing duplicate task updates and manual PM steps by **35%**.
- Designed **GenAI** pipelines (**OpenAI API**, **Vertex AI**) using **LangGraph + RAG** with **ChromaDB**, improving retrieval quality for project docs and supporting **1,000+** automated queries.
- Contributed to containerization with **Docker** and **CI/CD** on **GCP**, adding staged checks and release gating, increasing pre-release success by **20%** across iterations.

Machine Learning Research Assistant   Aug. 2025 – Present
University of Alberta   *Edmonton, AB*
- Developed **Reinforcement Learning** agents in **Python (PyTorch)** and a **C# .NET RimWorld** game mod that streamed real-time gameplay event data to enhance colony task efficiency.
- Trained and evaluated **RL** agents under **Vanilla** and **Free Will** survival policies in a standardized resource-stress testbed, applied the **SwiftTD** algorithm to refine behavior.
- Analyzed agent–environment logs to identify mood drivers and performed baseline comparisons, controlled experiments, and error analyses with **NumPy/Matplotlib** to prepare a conference-style **research paper** draft.

Teaching Assistant   Jan. 2025 – Apr. 2025
University of Alberta   *Edmonton, AB*
- Led labs and tutorials for **500+** students, improving student lab performance through **academic support**.
- Automated grading with **Python**, **Bash**, and **PyTest**, reducing evaluation time by **40%** while ensuring consistency, **mentored** students on **testing** and **code quality**.

PROJECTS

Wealth.io | *ReactJS, Node.js, Express, Tailwind CSS, MongoDB, REST APIs, Plaid, Sentry, Dwolla*
- Launched a secure **full-stack** banking platform with **SQL + React**, for **50+** users and enabling real-time account creation, balance management, and fund transfers with **80%** reliability.
- Built authentication **data pipelines** using **JWT + OAuth 2.0**, reducing unauthorized access attempts by **40%** and boosting overall user trust.
- Optimized database queries and **API** response times, reducing transaction history load times by **35%** and enabling faster **data-driven** interactions.

DriveSafe | *Python, OpenCV, Muse S, SQL Alchemy, ReactJS, Tailwind CSS | natHACKS 2024 Winner*
- Developed a real-time data pipeline to process **EEG** signals from **Muse S** using **BrainFlow API + Python**, achieving **90%** detection accuracy for driver fatigue.
- Accelerated **drowsiness recognition** by **70%** by implementing **OpenCV** based **facial recognition** and continuous **eye-tracking** for early alert triggering.
- Collected and analyzed **30+** hrs/week of multimodal driving data, generating actionable fatigue insights that reduced accident risk and informed driver safety recommendations.

TECHNICAL SKILLS

Languages: Python, Java, C/C++, SQL, JavaScript, HTML, CSS, Bash
Frameworks & Libraries: React.js, Next.js, Node.js, FastAPI, PyTorch, pandas, NumPy, Matplotlib, OpenCV
Databases & Design: MongoDB, Firebase, Firestore, MySQL, PostgreSQL, Figma
Developer Tools & Platforms: Git, Docker, Google Cloud Platform, VS Code, PyCharm, Cursor