Armaan Gupta

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Education

University of Waterloo **Sept. 2024 – Apr. 2029**
Bachelor of Computer Science + Minor in Artificial Intelligence (3.7+ GPA) *Waterloo, ON*

Technical Skills

Languages: Java, Python, C, C++, C#, SQL, JavaScript, TypeScript, HTML/CSS, Swift, MATLAB, PHP, Rivet
Frameworks, Tools, & Libraries: React, Node.js, Git, VS Code, AWS, TensorFlow, PyTorch, Firebase, Angular, Next.js, npm, Flask, pandas, NumPy, Matplotlib, MongoDB, YOLO, OpenCV, Jupyter Notebooks, Google Colab, Tailwind, FastAPI, REST API, Vite, Three.js, AutoCAD, Figma, Linux, Bash, Google Cloud Platform, Microsoft Office, CSV, JSON

Experience

TKS (The Knowledge Society) **Sept. 2022 – June 2023**
Innovator (AI Focused) *Toronto, ON*

- Developed a comprehensive **ML-driven** 8-year strategy for CIBC to attract and retain GenZ customers, integrating React, Node.js, and AWS to prototype a modern **mobile app and automation features**.
- R&D'd transformer models and deep learning architectures for NLP and CV tasks, including improving a CNN text recognition model to **99.5% accuracy**, while improving inference speed by **27%** and increasing accuracy in other classification tasks by **15%**.
- Won separate technical competitions hosted by the **MasterCard Foundation & CIBC** and was awarded opportunities to consult their respective executives on the future integration of emerging tech in their systems.

LandingX **July 2023 – May 2024**
CEO & Founder *Remote*

- Built **modern, responsive web applications** using React.js, Node.js, Three.js, and Tailwind CSS, ensuring seamless **cross-device compatibility**.
- Deployed and optimized applications using Vercel and AWS, **reducing load times by 30%** through performance tuning and **CDN utilization**.
- Communicated directly with clients and cross-functional teams, ensuring technical solutions aligned with business needs, leading to **95%** client satisfaction.
- Managed **full-stack development workflows**, leveraging Vite, npm, and Git for version control and deployment.

Code Ninjas **June 2024 – Aug. 2024**
Camp Leader & Code Sensai *Mississauga, ON*

- Developed an interactive programming curriculum for beginners and intermediate learners, integrating Lua, game development, and **computational thinking concepts**.
- Built and optimized educational games and tutorials using Lua, Roblox Studio, and **scripting APIs**, enhancing engagement and retention by **30%**.
- **Collaborated with a cross-functional team**, including designers and educators, to align curriculum goals with industry standards and emerging **edtech trends**.

Projects

PrepPal | *SQL, Python, JS, React, Tailwind, Flask, Google Cloud, OpenCV, OpenAI, Cohere, Recharts* **repo link**

- Developed a **full-stack** interview preparation assistant to provide interactive mock interviews and AI-driven feedback.
- Integrated OpenAI and Cohere APIs to formulate personalized GenAI feedback and **real-time response analysis**, improving user preparation by **40%**, resulting in **100+ unique users** within 2 weeks of launch.
- Designed and implemented a **structured SQL database**, efficiently storing user interview history, AI-generated feedback, and progress metrics.

ASD Prediction Model | *Python, Colab, NumPy, Pandas, Matplotlib, sklearn, pickle* **repo link**

- Achieved **93%** cross-validation accuracy in detecting Autism Spectrum Disorder using **Decision Tree** and **Random Forest** models.
- Processed data with NumPy, pandas, Matplotlib, and SMOTE to handle imbalances and extract insights.
- Optimized models in Google Colab, leveraging scikit-learn for **hyperparameter tuning** and pickle for model storage.

Speed Estimation & Vehicle Tracker | *Python, OpenCV, ultralytics, NumPy, Argsparse* **repo link**

- Built a **CNN-based** vehicle detection and tracking model capable of calculating vehicle speed, counting vehicles, and classifying types for **detailed traffic analysis**.
- Integrated real-time video processing with Supervision & OpenCV, leveraging **tqdm to optimize performance**.
- Streamlined model deployment and inference with requests, ensuring **efficient** and accurate processing for large-scale traffic datasets and obscure camera angles.