Aryaman Arora

510-468-2771 | rowan.arora@icloud.com | LinkedIn | GitHub

EDUCATION

University of Toronto, St. George   Toronto, ON
Honors Bachelor of Science, Computer Science   *Sep. 2021 – April 2025*

TECHNICAL SKILLS AND CERTIFICATIONS

Languages: Java, Python, C, C++, SQL, HTML, CSS, JavaScript, GDScript/C#, Assembly, LaTeX, XML.
Frameworks: TensorFlow, Keras, PyTorch, Pytest, Django, Flask, React, Node.js, Vite, Vue.
Developer Tools: Git, Docker, VS Code, Visual Studio, PyCharm, IntelliJ, Eclipse, Gazebo, ROS, RViz.
Libraries: Sklearn, SciPy, pandas, pickle, boto3, psycopg2, nltk.

EXPERIENCE

CTO   May. 2024 – Present
InkTank   *Toronto, ON*
- Executed the end-to-end development of InkTank's website using **Vite** and **Vue.js**, achieving a **50% reduction** in page load times and providing a seamless platform for over **500+ tattoo artists and clients**.
- Applied advanced **3D modeling** and visualization features, increasing user engagement by **35%**, based on feedback from **150+ active users**.
- Worked closely with cross-functional teams to integrate features, leading to a **20% increase in overall website functionality** and ensuring user satisfaction while shaping InkTank's technical strategy.

Software/Robotics Intern   Jun. 2024 – Aug. 2024
Evodyne Robotics Academy   *Mountain View, CA*
- Developed a virtual model of the Evodog robot using **CAD modeling**, **ROS 2**, and **Ignition Gazebo**, which reduced the need for physical prototypes, saving a significant amount of time and resources in testing.
- Applied **3D meshes** and physics simulations, improving design accuracy by **25%** and enabling quicker iterations.
- Partnered with the robotics team, contributing to a **30% improvement** in model accuracy, optimizing testing methodologies and speeding up the design validation process.

PROJECTS

Evodyne Robotics Virtual Model Simulation | *XML, URDF, XACRO, ROS, Gazebo, RViz*   June 2024 – August 2024
- Recreated the Evodog robotic model entirely in code using **CAD modeling**, enabling virtual simulations that reduced resource usage by over **50%** and accelerated the design iteration process, saving **100+** hours of testing time.
- Utilized **ROS 2** for robot control and **Ignition Gazebo** for realistic physics simulations, improving testing efficiency and enabling quicker adjustments to the robotic model.
- Collaborated with the robotics team to refine the virtual model, improving model accuracy by **20%**, ensuring realistic simulation in a virtual environment.

FUSE File System Implementation | *C*   November 2023 – December 2023
- Developed a FUSE-based version of the Very Simple File System (VSFS), supporting essential file operations such as creation, deletion, reading, writing, and resizing, demonstrating a strong understanding of file system architecture.
- Engineered error-handling mechanisms, reducing file operation errors by **80%**, and boosting system reliability.
- Managed disk formatting and block allocation techniques, utilizing bitmaps for inode and block allocation, improving memory efficiency by over **30%**.

MarkUs Database Analysis | *Python, SQL*   October 2023 – November 2023
- Designed and executed complex **SQL** queries to extract and analyze data from the MarkUs database, improving data accessibility and reporting efficiency by **35%**.
- Implemented **Python** scripts using the **psycopg2** library, automating data extraction and processing for large datasets, reducing manual processing time by **50%**.
- Visualized key data insights using **pandas** and **Matplotlib**, providing actionable insights to improve database performance.

mhapy Sentiment Analysis Model | *Python, Flask, nltk, TensorFlow, Keras*   September 2023 – December 2023
- Developed a sentiment analysis API for mhapy, leveraging **natural language processing (NLP)** techniques to analyze over **10,000** pieces of user-generated content for mental health trends.
- Built and integrated the **Flask**-based backend with robust RESTful API endpoints, ensuring secure and efficient data handling for real-time analysis, achieving **85%** accuracy in sentiment detection.
- Utilized **TensorFlow** and **Keras** for training and deploying the sentiment analysis model, optimizing the model for production use.