

JUWAIIRIAH ZIA

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[GitHub](#) | [LinkedIn](#)

EXPERIENCE

NeuraVue

Full Stack Developer

Toronto, ON

March 2022 – Present

- **Software development** for machine learning model using **python** libraries on **NVIDIA Jetson Nano board**.
- **Data collection** from YouTube and social media platforms, annotation, and labeling of visual data using CVAT.
- Running machine learning tests and then performing **fine-tuning** using test results on the real-time camera video feed.
- Maintain documentation for machine learning model development and test phases using **confluence**.
- Assist the cloud architecture team in researching cloud options and **cloud model deployment** on Google Cloud Run.
- Assist the Backend development team in web application and mobile app maintenance using **JavaScript**.
- Participate as a full member of the agile team doing breakdowns, code review, scheduling **SCRUM** meetings, preparing roadmap, sprint backlog, and project board on **Jira**.

Computational Intelligence Laboratory

Computer Vision Researcher

University of Manitoba, Winnipeg

January 2020 – Present

- Planning and organizing **data collection** routines in outdoors for vehicular traffic and their pre-processing.
- Designing an **adaptive object recognition video processing algorithm** aided with **shape description** to classify and track objects in outdoor environments.
- Applied **2D polygon image annotation** in video frames using MATLAB to discriminate shapes to identify objects' location in outdoors.
- Developing an optimized **similarity learning-based object detector** employing computational geometry topology and physics on few/no training data frames and accuracy comparable to that of a **deep learning-based surveillance system**.
- Composing research progress reports, presentations, and thesis using **MS Office** and **Latex**.
- Act with a high level of professionalism, integrity, and discretion in handling confidential information.

Science for All Audiences

Data Science Team Lead

Toronto, ON

July 2021 – August 2021

- Led the data science team of four people to perform **data visualizations, data analysis, and predictive modeling** using **R** and **Python data science libraries** on the COVID-19 dataset.
- Coordinated with supervisor to facilitate executives and trainees of the data science team.
- Supervised team members in preparing project reports and audio-visual presentations.

R Developer

July 2021 – August 2021

- Experience in authentic **collection, transformation, and periodical updates of the dataset** for descriptive statistics, and working with missing values.
- Excellent **data visualization** experiences using GGLOT, DPLYR, MATPLOTLIB, and PLOTLY in R and Python, or using other visualization tools and composing narrative for **data storytelling** in lay words.
- Implemented **linear regression** with **R** and **Python** for building a predictive model of COVID-19 data to estimate the time when Canadians will be fully vaccinated.
- Developing **presentations** of project progress for the supervisors and fellow interns.

Jarvis – URL Annotator and Grader

Query Annotator and Classifier

OneForma

June 2021 – July 2021

- **Labeled** user keywords and queries for the machine learning-based search engine to pick better search results.
- Implemented logical thinking to judge and **classify** valid queries for the URL grading.
- **Reviewed** and **rated** best results of search engine results with respect to user query and location of data.
- Protected confidential and sensitive data with integrity.

Healthcare Matrix

Founder, Product Engineer

Karachi, Pakistan

February 2019 – December 2019

- Headed technical team for prototyping, and development of **android app** and hardware design for the interface.
- Develop the android app and its capability to communicate with **NI myRIO FPGA embedded board**, programming using **C** and **LABVIEW** and supporting integration of printing and medicine dispenser.
- Plan and **management of iterations** for vendors and development team to meet client needs and satisfaction.
- Maintained **logs and filing systems** using MS Office and protected confidential and sensitive data with integrity.
- Executed **pitch presentations** for business clients using Adobe Software and performed face-to-face presentations.

Ecode

PCB Layout Designer, Research and Development Engineer

Karachi, Pakistan

September 2016 – October 2018

- Designed, fabricated, assembled, and tested multi-layer **PCBs** using a variety of design software.
- Led research for turnkey projects of **reserve engineering** obsolete electronic modules and their upgrade.
- Conducted search for **electronic components** and their alternates and quality testing.
- Generated **bills of materials** using MS Excel and collaborated with the procurement department for their purchase.
- Developed an **Inventory system** from scratch using MS Excel for electronic components and their maintenance.
- Demonstrated analytical problem-solving skills during the **testing and quality assurance** phases of the product.

EDUCATION

University of Manitoba

Winnipeg, MB

Master of Science, Electrical, and Computer Engineering

Coursework: Computer Vision, Image Processing, Deep Learning with Convolutional Neural Networks

Research: A Few-Shot Meta Learning-Based Adaptive Moving Vehicle Recognition Using Shape Based Temporal Features Matching for Outdoor Locations

Hamdard University

Karachi, Pakistan

Master of Engineering, Electrical Engineering

Coursework: Machine Vision, Advanced Signal Processing, Research Methodology, Neural & Fuzzy Systems

Dawood University of Engineering and Technology

Karachi, Pakistan

Bachelor of Electronic Engineering

SKILLS

Programming & Scripting Languages: Python, .Net C# and C++, Java, R, HTML, CSS

Software IDE: MATLAB, R Studio, Visual Studio, Google Colab, Altium, LABVIEW

Documentation: MS Office, Latex, Confluence

Collaboration Tools: GitHub, Jira, Zoom, Microsoft Teams, G-Suite, Slack, and Trello

VOLUNTEER EXPERIENCE

Zenith Canada Pathways

Toronto, ON

Fellowship Developer

September 2021 – Present

- Working with external relations, social media marketing and fellowship development team to promote Canada's First Space fellowship.
- Assist website development team in updating web copy and copywriting using HTML and CSS in squarespace.
- Assist outreach team by designing social media posts using Canva tools, their copy and scheduling using Hootsuite.
- Brainstormed ideas for a community impact project and supervised a group of students and its presentation.

University of Manitoba Space Applications and Technology Society

University of Manitoba, Winnipeg

Programmer

October 2020 – Present

- Coding for the Command and Data Handling (CDH) imaging system in a cube-satellite (CubeSat) team.
- Assist power and Attitude Determination and Control System (ADCS) team with PCB designing, electronic component assembly, and CAD designing.