Joshua Esteban Ruiz Nowell

Graduated Computer Engineer | ML Focused Interests | University of Victoria
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EDUCATION

UNIVERSITY OF VICTORIA

B.A.Sc. in Computer Engineering

Expected Graduation: April 2025

Specializations: Computer Intelligence, Networks Security and Privacy

SKILLS

PROGRAMMING

Python • C++ • MatLab • Java • SQL

TECHNOLOGIES

Numpy • OpenCV • TensorFlow • Git • Linux • ML Plot • Embedded

LINKS

GITHUB:

https://github.com/joshruiz1414

LINKEDIN:

https://www.linkedin.com/in/joshua-ruiz-software/

INTERESTS

Basketball • Piano • Climbing

VOLUNTEER

Community Sports Coach • Salvation Army Team

Relevant Courses

- Computer Vision (ECE 471)
- Artificial Intelligence (ECE 470)
- Medical Imaging (ECE 435)

LANGUAGES

Spanish (Advanced)

TECHNICAL

90%+ in University Data Structures course • Level 7 Practical Exam RCM Piano • Advanced Rudiments Theory with Distinction Honours

RELEVANT PROJECTS

Machine Learning Thermal Rescue Drone May '24 - Aug '24

› Trained a YOLOV8 human detection model with 85% accuracy on evaluation datasets

› Performed component analysis to identify critical model features to improve precision

› Compressed final model to fit on a drone with real-time detection at 15 FPS sampling

› Implanted TensorBoard to track training, analyzing confusion matrices and PR curves

Computer Vision Dendrite Segmentation Jan '24 - Apr '24

› Applied Otsu's and Fast key points to segment dendrites on multi-focused TIFF stacks

› Used morphological techniques to isolate in-focus regions; enhancing segmentation

› Iterated on focus metrics to dynamically validate sharp regions in layered images

Face Tracking Security Camera Sept '23 - Dec '23

› Used openCV and numpy libraries to segment human faces and report confidence

› Optimized multi-threading configuration maximizing CPU usage and parallelize compute

› Integrated email notification system with real-time delivery of attached image payload

› Presented E2E demo to school advisers with emphasis on experimentation process

Computer Vision CNN Penguin Segmentation May '23 - July '23

› Used keypoints, Gauss filters, max-pool CNN methods to segment penguin images

› Loaded extracted features to GPU running YOLOV8 model for efficient classification

› Implemented Otsu's method and affine transformations for training data generation

› Trained model using confusion matrix as reinforcement learning to improve accuracy

EXPERIENCE

Natural Resources Canada | DATA ANALYST Sept '24 - Apr '25

› Led feature release process E2E with design, stakeholder review, and production release

› Leveraged python libraries in ARCGIS to automate meaningful data visualizations

› Optimized fire spread project performance by shifting to level-focused BFS algorithms

› Visualized 100k+ data points using Python ML Plot after SQL queries to clean-up data

Noratek Solutions | JUNIOR SOFTWARE DEV INTERN May '24 - Aug'24

› Built a pivot table in Java to summarize large custom client data to program managers

› Debugged issues with CI/CD pipelines's automated testing to unblock deployments

› Paired with senior engineers to design isolated modules for user app workflows

› Developed SQL to aggregate and transform PostgreSQL data for real-time visualization

Voronoi Health Analytics | SOFTWARE INTERN 1/22 - 4/22 + 9/22 - 12/22

› Initiated automatic program start-up Cpp script with machine-type dynamic inputs

› Completed project to connect MATLAB and Cpp processes using named pipes

› Introduced background thread to process IO-bound work and make testing faster

› Developed Cpp program that generated mock user-data for main app test cases