Vishal Jayakumar

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EDUCATION

University of Waterloo 2022 - 2027
Bachelors in Computer Science, 3.92 GPA

SKILLS

Languages C/C++, Python, C#, HTML/CSS, SQL, R, Bash

Frameworks .NET, Selenium, ROS, AWS

Tools Docker, Git, GitHub, Jenkins, JIRA, Linux, Solidworks

Libraries NumPy, PyTorch, Matplotlib, Pandas, Slash, Scikit-Learn

EXPERIENCE

Burkett Statistical Consulting Mississauga, Ontario
Python Developer September 2024 - December 2024
- Used Pandas for data processing of utility meter data, producing a 90% smaller clean dataset
- Engineered features for EV load prediction and fitted ML models with scikit-learn achieving 80% accuracy
- Automated assembly line scheduling using Google OR-tools, Python and R, reducing manual effort and achieving a potential 5% reduction in paint costs by minimizing color switches and meeting all production constraints

Ford Motor Company Oakville, Ontario
WiFi Software Test Developer January 2024 - April 2024
- Created Python automation scripts for in-vehicle WiFi modules extending test coverage to new hardware
- Conducted firmware testing of launch builds using Jenkins and used JIRA for reporting bugs in agile environment

Exponential Exchange Remote
Junior Data Science Intern July 2023 - September 2023
- Scraped price history of over 30 major market indices using Selenium and Python for data analysis
- Automated data migration from Google Sheets to Snowflake using Python, Google Apps Script and AWS
- Used Snowflake and SQL to compute correlations and created an interactive dashboard in Looker to visualize and compare the different indices

WATOnomous Waterloo, Ontario
Software Lead & Researcher September 2022 - Present
- Co-authored survey paper on reinforcement learning based decision making schemes for autonomous vehicles
- Managed team of 10 members to develop mapping and localization solutions for autonomy stack

PROJECTS

WRO FE Self Driving Car Challenge | *Project Link* July 2023 - September 2023
- C++, Arduino, OpenCV
- Programmed Arduino Nano using C++ to control mini-robot and autonomously navigate maze challenge using a camera for computer vision and multiple different sensors for robot localization

CADHub | *Project link* July 2023 - October 2023
- C#, .NET, AWS Lambda & S3
- Developed a full-stack windows application for simple CAD version management and file sharing

Neural Network from Scratch | *Project link* January 2022 - November 2022
- NumPy, Python
- Derived, with linear algebra/calculus, equations for dense neurel network backpropagation
- Implemented forward & back propagation using only Python & NumPy achieving 90% accuracy on MNIST