Shahwar Saleem

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EDUCATION

UNIVERSITY OF WATERLOO
MEng in Computer Engineering
August 2018 | Waterloo, ON
Cum. GPA: 89%

UNIVERSITY OF ENGINEERING AND TECHNOLOGY
BE in Computer Engineering
August 2013 | Lahore, Pakistan
Cum. GPA: 85%

LINKS

Github:// **shahwar9**
LinkedIn:// **shahwarsaleem**

COURSEWORK

SOFTWARE ENGINEERING
Tools of Software Engineering
Algorithm Design and Analysis
Safety Critical Embedded Systems
Operating Systems
Computer Programming Languages
Data Structures
Computer Networks
Data Bases

DATA SCIENCE
Knowledge Modelling and Analysis
Tools of Intelligent Systems Design
Research Topics: Machine Learning
Text Analytics (NLP)
Deep Learning Specialization (Coursera)

SKILLS

PROGRAMMING LANGUAGES
Over 5000 lines:
• C • Python • JavaScript
Over 1000 lines:
• Java • MySQL • C++

TOOLS
• Openshift • PySpark • Docker
• Kubernetes • Jenkins
• Git • JIRA • Slack

EXPERIENCE

BOREALIS AI | Software Engineer
July 2019 - Present | Waterloo, ON
- As part of Data Management team, designed a robust data ingestion and pre-processing pipeline for research and production environments. Developed reusable tools to handle O(TeraBytes) of data to be processed with PySpark and injested into research or production pipeline.
- Developed and currently maintaining a Conda Package for internal dataset abstraction. The package testing is automated through Openshift and Jenkins.
- Optimized fake data generation script from single process to multi process Python job. This brought time to generate 7TB of data from 12 days to just 15 hours.

PRONAVIGATOR.IO | Software Engineer (Machine Learning)
August 2018 - June 2019 | Kitchener, ON

- Implemented complete migration from SVM pipeline to Deep Neural Network model pipeline after showing through a research report that NNs perform better as compared to SVMs. This migration saved significant servers cost per month and gained a huge performance increase. -
- Improved the machine learning pipeline by implementing a Confusion Matrix tailored to text classification needs of NLU engine of Pronavigator. This provided a sight into correlations between different kinds of user messages. A performance increase of 7 to 10% was evident because owing to more context driven confusion matrix data was cleaned accordingly.

MENTOR GRAPHICS CORPORATION | Software Engineer
Oct 2013 - May 2016 | Lahore, Pakistan
- Improved visualization of processes on a multi-core architecture in RTOS by implementing a feature called Kernel Awareness.
- Experienced developing different device drivers for Nucleus RTOS. (I2C, SPI, LCD, CAN etc drivers for ARM & PPC Architectures)

PUBLICATIONS

WATERLOO INTELLIGENT SYSTEMS ENGINEERING (WISE) LAB | Co-Author
Jan 2018
"An Automated Vehicle Safety Concept Based on Runtime Restriction of the Operational Design Domain" , 2018 IEEE Intelligent Vehicles Symposium

AWARDS

2016 - 2018	Graduate Research Studentship - University of Waterloo
2016 - 2018	International Master's Student Award - University of Waterloo
2009 - 2013	National Talent Scholarship from Government of Pakistan

GRADUATE PROJECTS

2018	Fake News Challenge Phase 1	Github
2017	Prediction of Yelp rating based on user text reviews	Github
2016	Autonomous Car Platoon (Fuzzy Logic and Neural Networks)	Github