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

AWARDS

Graduate Research Studentship
International Master's Student Award
2009-2013 National Talent Scholarship

EXPERIENCE

BOREALIS AI | Machine Learning Software Engineer
July 2019 - Present | Waterloo, ON

- Designed/Implemented a scalable solution for accessing structured data from different storages like NAS, S3 etc. Data Access Platform enables researchers to efficiently access random data from O(100TB) datasets. The solution capitalizes on the typical Database idea of indexing, the difference is that this indexing is done by traversing File System on millions of files of the dataset.
- Designed/Implemented robust Jenkins + Openshift based scalable CI/CD pipeline for pip packages. This pipeline automated the package delivery to users through artifactory within Borealis AI. Integrated a versioning strategy with pipeline to streamline release process. Release process was cut down to automated minutes from hours of human intervention.
- Responsible for vision and roadmap of a data access platform. On boarded 5-6 projects to use Data Access Platform. Data Accessing efforts of all these projects were brought down to a few commands and minutes in processing from hours and days of processing and lots of lines of code to write until researchers get to see the data.

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

- Designed/Implemented Neural Network based NLU Engine for Pronav. This design was proposed after analysing poor performance of SVM based NLU Engine of Pronav. New NLU Engine saved thousands of dollars of server costs per month and responded to requests 100x faster than the SVM based NLU Engine.
- Designed/Implemented an accuracy evaluation tool based on Confusion Matrix technique tailored to text classification needs of Pronav NLU Engine. This evaluation platform highlighted major issues with Data Cleaning process.
- Re-defined Data Cleaning processes in the light of above insights from accuracy evaluation tool. Documented the data cleaning process and mentored several Data Analysts to look at the data from NLU Engine perspective before labelling. This provided a sight into correlations between different kinds of user messages. An accuracy performance increase of 10 to 15% was evident because owing to more context driven confusion matrix data was labelled 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. Kernel Awareness connected the core information of a process to pre-defined UI. Through this UI of Kernel Awareness, developers could clearly see state, memory utilization, affinity etc of each process which is critical in an RTOS.
- Experienced developing different device drivers for Nucleus RTOS. (I2C, SPI, LCD, CAN etc drivers for ARM & PPC Architectures)

PUBLICATIONS

An Automated Vehicle Safety Concept Based on Runtime Restriction of the Operational Design Domain , 2018 IEEE Intelligent Vehicles Symposium