VIKRAM SUBRAMANIAN

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SKILLS

LANGUAGES: Python, C++, C, Groovy, Bash
TECHNOLOGIES: Docker, Jenkins, Git, AWS, Flask, SQL, RESTful Services, Microsoft SQL Server, Pandas, NumPy, Jira, Agile Development

EMPLOYMENT

SOFTWARE ENGINEERING INTERN
Kitchener, ON, Canada · Jan. 2020 to Apr. 2020
Thomson Reuters
- Optimized and parallelized scripts that run the Flair NLP model to make them 150% faster and saved over 400 hours of processing time.
- Built a pipeline to extract over 25 million rows of legal data from a Microsoft SQL Server, run Flair and Spacy NLP models to remove personal information and then analyze them using Pandas.
- Designed and developed a REST API for an NLP model that is currently used by 3 internal teams using Flask, Docker, SQLite and AWS.

UNDERGRADUATE RESEARCHER
Waterloo, ON, Canada · Sep. 2019 to Dec. 2019
SWAG Lab, University of Waterloo
- Conducted an empirical study of commit histories in open source projects by classifying commits based on the nature of change and analyzing data to find meaningful conclusions
- Created scripts in Python and Bash to crawl GitHub and mine the commit histories of 30,000+ users and to identify patterns in commit behaviour such as frequency, nature of commit, quality, etc.

Research **won the Undergrad ACM Microsoft Student Research Competition** at ICSE2020 : bit.ly/3a8iV4w
Submitted findings as **main author (research paper) to IEEE Software Journal**: bit.ly/2Z1XpvJ

DEVOPS ENGINEERING INTERN
Waterloo, ON, Canada · May 2019 to Aug. 2019
Sandvine Inc.
- Built a pre-merge CI pipeline for 4 repositories to run a battery of tests affecting 50+ commits/week using Groovy in Jenkins.
- Incorporated Docker-compose in the build system and reduced the number of instructions required to build services containing multiple docker images.

PROJECTS

'COMPLETE' – OVERALL WINNER AT HACK THE NORTH 2019 (1500+ PARTICIPANTS)
- Built a VSCode extension that produces relevant code snippets by understanding the meaning of docstrings the user writes and searching for code in open-source repositories.
- Created the backend by scraping GitHub's Semantic Search engine, using Difflib to filter search results and TF-IDF and regex to filter parameters.

GIT APPLY+
- Worked in a team of 3 to build a tool that can automatically apply security patches to forks/modified versions of open-source projects and increased apply-percentage by 31% compared to git apply.
- Built a python package to parse patch files, extract individual hunks, modify them and remake them into a patch file.

EDUCATION

University of Waterloo, ON, Canada
2018 to 2022
Software Engineering, Honours
Selected Coursework: Programming Principles (C), Data Abstraction and Implementation (C++, OOP), Software Engineering Principles, Data Structures and Data management, Introduction to Database management, Sequential Programs (Compilers).