Faizan Safdar Ali

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Summary

Offering software development and research experience with high level, imperative, object oriented languages. Skilled with the concepts of version control, unit testing, agile development, open source, and team-driven collaborative programming. Interested and experienced in working with algorithms, data structures, Artificial Intelligence and Machine Learning, distributed systems.

Education

2019-2020 Masters in CS, **Koc University, Turkey (KU)**, (Block-Chain and Edge Computing, **CGPA: 4.0**)
Relevant Courses: Network and System Security, Parallel Programming, Deep Learning.

2017-2018 Masters in CS, **University of Illinois at Chicago (UIC)**, (Incomplete due to financial issues)
Relevant Courses: Web development and Security, Database Systems, Distributed Computing, Algorithm Design, Operating System Concepts and Design.

2013-2017 BSc CS, **Lahore University of Management Sciences (LUMS)**, **SCGPA: 3.5**
Relevant Courses: Networks Computing, Data Mining, Computer Systems, Machine Learning, Topics in Internet Research, Computer and Problem Solving, Artificial Intelligence, HCI

Internship/Teaching Experience

Summer 2014	**ACM Internship: Developed projects in java, python, C++, Socket , threads, Data structures**
Summer 2015	**Smart Locker: Build GUI/ designed UX in Android, Build logic of smart lock for android 4.1.**
Teaching LUMS	**Intro to Programming, Digital Logic Circuits, Fundamentals of Computer Systems**
Teaching UIC	**Machine Organization, C++ and Matlab**

Professional Experience

July 2019 - November 2019 **Dataspine (Canada): Remote Full Stack Software Engineer**
- Worked on the back-end development using Python
- Worked with latest technologies including Kubernetes, Dockers and AWS
- Worked on the optimization of the system design.

Research Experience

Spring 2019 - Present
- **Study of the consensus protocols in the blockchain for IoT.**
- Learning about the applications and the use of blockchain in IoT
- Future work will use Machine Learning techniques to define the consensus protocols.

Spring 2018 - Summer 2018
- **Fast Graph Exploration by a Mobile Robot**
- Developed a faster algorithm for graph exploration.
- Calculated optimum time and memory complexities.
- Proved that the algorithm is faster than already developed algorithms.
- Paper got accepted in AIKE conference 2018.

Summer 2016 - Spring 2017
- **Implemented Utility-Aware ECMP Technique using P4 Language on routers.**
- Tested and proved that this technique is better by sending packets over network topology.
- Implemented it on the data path to make it more efficient and fast.
- Reduced the latency and increased the throughput of the network.
- Used Linux/Ubuntu platform for writing and testing the code and Simulating routers.

Spring 2015 - Summer 2016
- **Caught Collusion Networks And Reputation Fraud.**
- Studied how the underground blackhat websites like SEOClerk sell the likes on the social sites.
- Identified frauds by building classifiers to find accounts using collusion-networks.

Personal/Course Projects

VF Training:
- **Developed a virtual reality firefighter training platform using C# in Unity 3D**
- Utilized MySQL to develop a database to store user information and simulation data
- Designed a GUI using event-driven immediate mode GUI in C#
- Modeled three dimensional game models using Adobe Illustrator

Crime Patrol:
- **Did the data mining/data analysis on the data set of the crimes in America.**
- Classified the areas with respect to the extent and type of crime using Rapid Miner and R.
- Used python script to map the result on the real map. Ploted graphs and made conclusions.

HeyDoc:	•**Developed a web-app made on Ruby on Rail. A RESTful API.**
	•Developed MVC model. Used MongooDB as database to store user and doctors information.
	•Did unit testing of the app. Wrote the paths and linked files with the web page
	•Wrote Algorithm to find the near-by doctor using Google maps and location.
Roller Coaster:	•**Made a 3D roller coaster game on Matlab with 3 levels and attractive UI.**
	•Made the roller coaster simulation using physics rules.
Email Read:	•**Made an Google chrome extension using chrome API.**
	•Wrote NodeJS back-end server with ember to hanlde querries.
	•Made front end with jade and AngularJS. Used Dockers and Mangoose for database.
AnyFeed:	•**Developed web-app using NodeJS and express. Used JavaScript for event-driven web page.**
	•Used jade to design the website. Developed protocol to anonymously post on the page
	•Did unit testing. Used Mongoose and dockers for the database handling.
Darzi Bhai:	•**Created a business model for a start-up, an online platform where people find tailors.**
	•Developed the business model, revenue model and implemented the part of it.
	•Did user studies and tested the platform. Created mock-ups for the web-app and mobile-app.
Sudoku:	•**Developed Sudoku puzzle using ExcelVBA and Macros. Developed algorithm and the user UI.**

Technical Skills

Programming Languages	**MySQL**, C++, C, C#, java, Python, openGL, R, GoLang, **Excel VBA**
Functional Languages	Haskell, Clojure, F#
Development	php, html, JavaScript,jQuerry, Ruby, Ruby on Rails, CSS, NodeJs, EmberJs, AngularJS, IOS, Android
Softwares	Matlab, Visual Studio, Android Studio, Unity, Unreal Engine, RapidMiner, Microsoft Excel, Microsoft Word, SAS, AWS
Operating Sysytems	WINDOWS, LINUX, ANDROID, IOS
Databases	mySQL, NoSQL, MongoDB, Dockers, Hadoop

Honors and Awards

MENSA IQ TEST	Held at NUST H-12 - Islamabad. IQ score 135 translated into 99th percentile.
Matric Exams	Gold medalist at school (10th grade level) for scoring highest marks..
Valedictorian	3rd position at college (12th grade level) in the home exams.

Online Courses and Certifications

Applied Data Sci. with Python	https://www.coursera.org/specializations/data-science-python
Machine Learning	https://www.coursera.org/learn/machine-learning
CUDA Programming	https://www.udemy.com/cuda-programming-masterclass
Modern Scraping	https://www.udemy.com/web-scraping-in-python-using-scrapy-and-splash

References

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Publications

1. Kshemkalyani, Ajay D., and Faizan Ali. "Efficient dispersion of mobile robots on graphs." Proceedings of the 20th International Conference on Distributed Computing and Networking. ACM, 2019.
2. Kshemkalyani, Ajay, and Faizan Ali. "Fast Graph Exploration by a Mobile Robot." 2018 IEEE First International Conference on Artificial Intelligence and Knowledge Engineering (AIKE). IEEE, 2018.