Umair Sarfraz

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Education

Master of Science, Information Security.　　　　　　　　　　Fall 2018
Comsats University, Islamabad.

Bachelor of Science, Software Engineering.　　　　　　　　Spring 2016
Comsats University, Islamabad.

Experience

Application Development Lead　　　　September 2022 - Present (3 mos)
DAI-Labor der Technical University Berlin

- Led development of simulation / show case application for BeIntelli research project predominantly focused around autonomous driving.

- Maintenance of a web based application for streaming perception of sensory data for autonomous cars.

- Led design & (ongoing) development of a web based data platform for autonomous driving.

Engineering Tech Lead　　　　January 2021 - August 2022 (1 yr 7 mos)
IOTA Foundation, Berlin

- Led multiple engineering teams of 10 engineers in total responsible for performance evaluation, career development and growth.

- Worked as a Hiring Manager for recruiting and onboarding Software Engineers for the wallet / libraries / tooling / developer experience teams, $0 \rightarrow 8$, with a retention rate of 100%.

- Collaborated across teams cover Design, Engineering and others to align organisational goals with projects objectives.

- Worked as a Technical Program Manager responsible for IOTA integration with cryptocurrency exchanges.

- Led development of Software Development Kits (SDKs) and tooling for IOTA cryptocurrency network.

- Designed and architected a wallet library/package used by several cryptocurrency exchanges for listing IOTA currency on their platforms.

- Led design and development of a wallet *(Firefly)* for managing IOTA payments using Svelte/Electron/Capacitor.

Technical Consultant (React Native)　　　　March 2019 - August 2019 (6 mos)
Emumba, Islamabad — Part-time

- Led a team of mobile developers to develop a cross-platform cryptocurrency wallet application & a reward based agent application that incentivizes users with crypto tokens for sharing mobile sensory information.

- Helped to develop a TypeScript based client library for managing transaction operations of a cryptocurrency network.

- Responsible for OKR definitions, performance evaluations & mentorship.

Software Engineer   February 2018 - December 2020 (3 yr 2 mos)
IOTA Foundation, Berlin
- Designed and developed a wallet *(Trinity)* for managing IOTA payments using React/React Native/Electron.
- Developed a proof-of-concept mobile application *Selv* around the concept self-sovereign identities.
- Implemented a module (node quorum) for increasing the confidence level of responses from different public nodes in the network.
- Implemented a tool for automatically rescuing blocked IOTA funds.

Software Engineer   July 2016 - January 2018 (1 yr 7 mos)
Wanclouds Inc., Islamabad
- Led the development of a cloud monitoring web application using React.
- Developed and maintained the development and test environments used by front end software engineers.
- Integrated the Jenkins Continuous Integration (CI) systems into the existing deployment processes.
- Provisioned and maintained Continuous Deployments (CD) over Kubernetes cluster using Ansible.
- Developed a test environment for end-to-end testing of a large web application backend using python.

Engineering Intern   October 2015 - May 2016 (8 mos)
Inven Solutions, Rawalpindi
- Designed and developed a management software system for collaboration between for sports clubs using NodeJS/AngularJS.
- Developed mobile client applications for the management software using Ionic framework.

Technology Skills

Programming Languages: JavaScript / TypeScript, Go.
Operations Technologies: DO/AWS/GCP/Azure Cloud Services, Docker, Kubernetes, Jenkins, Ansible, Vagrant.
Web Backend Technologies: NodeJS, Express, Flask, Nginx, MongoDB, PostgreSQL, CassandraDB, MySQL, Redis, RabbitMQ.
Web Frontend Technologies: ReactJS, Angular, Svelte, Redux, Mocha, Jest, Enzyme, Bootstrap, SASS, Gulp, Webpack, Rollup, Bower.
Mobile Technologies: React Native, Ionic, Capacitor, RealmDB.
Desktop Technologies: ElectronJS, Git.

Publications

A. Shahid, U. Sarfraz, M. W. Malik, M. S. Iftikhar, A. Jamal and N. Javaid, "Blockchain-based reputation system in agri-food supply chain," In International Conference on Advanced Information Networking and Applications, pp. 12-21. Springer, Cham, 2020.

U. Sarfraz, M. Alam, S. Zeadally, and A. Khan, "Privacy Aware IOTA Ledger: Decentralized Mixing and Unlinkable IOTA Transactions," Computer Networks, vol.

148, pp. 361-372, 2019.

U. Sarfraz, S. Zeadally, and M. Alam, "Outsourcing IOTA Proof-of-Work to Volunteer Public Devices," Security and Privacy, 2019.

Conference Presentations   U. Sarfraz, "DLT, IOTA and beyond," Higher Education Commission (HEC) Lecture Hall, Islamabad, 2017.

Community Service   Active blood donor at Pakistan Red Crescent Society (PRCS)

Extra-Curricular Activities

College basketball team, *Captain*	August 2010 - May 2011
University basketball team, *Captain*	September 2015 - June 2016
Association of Computing Machinery (ACM), *Member*	January 2016 - May 2016

Languages

Urdu	Native
English	Fluent
Punjabi	Proficient
German	Beginner