

# Abdullah Ahsan

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## Technical Skills

- Design and DevOps of micro-services architecture based cloud native applications. Coding backend services & REST APIs in Node.js, Flask, etc.
- Deployment of applications on private and public clouds including AWS, GCP and on Kubernetes with Istio microservices mesh.
- **Languages:** JavaScript (Node.JS, TypeScript), Python (Flask, SciPy), Java, Bash, C, C++
- **Platforms:** AWS (*Certified Solutions Architect*), Google Cloud Platform, Kubernetes, Linux
- **Tools:** Docker, Istio, Jenkins, Ansible, Phabricator, Git, Gerrit, GitHub, JIRA, etc.
- **Databases:** MongoDB, Redis, Firebase realtime database, SQLite
- **Philosophies:** Cloud-native application design, Agile software development (Scrum), Test driven development (TDD)

## Work Experience

Xgrid, Inc. Islamabad, Pakistan.

*Software Engineer II* - Backend, Cloud DevOps & Frontend December 2018 - Present

*Software Engineer* September 2017 - November 2017

- Designed, developed & maintained backend microservices and REST APIs in Node.js & Flask. In one instance, I improved the performance of a backend service by 93% by proposing and implementing an architectural change which migrated the service to a more concurrent model and included Dockerization of multiple components.
- Coded internal tools, automation scripts and test plan helper scripts in Bash & Python.
- Wrote Jenkins CI/CD pipelines for testing and deploying in various environments (staging/production) on public & private clouds.
- Deployed and managed applications in production on AWS.
- Containerized multiple applications using Docker. Coded orchestration strategies using tools like Docker Compose.
- Wrote unit tests for multiple applications using tools like Mocha, Nose, Protractor etc.
- Made feature rich SPA frontend applications in Angular 6/Material/Bootstrap. Designed and implemented app state in @ngrx/store.

Xgrid, Inc. Islamabad, Pakistan.

*Software Engineering Intern* - Full-stack DevOps July 2017 - August 2017

- Observed and learned about the internal CI/CD infrastructure for microservice applications running in production on public and private clouds. This included services like Jenkins, Phabricator & Gerrit running on Kubernetes.
- Proposed and developed a competitive coding platform product idea. I made the wireframes and wrote UX user stories. I also proposed the backend architecture for the product and wrote technical design specification documents. This architecture was eventually implemented in the product and used in production.

DIODE (Pvt.) Ltd. Islamabad, Pakistan.

*Software Engineer* - DevOps, Android, Firebase January 2016 - July 2017

- Designed and developed backend microservices and APIs in Node.js, hosted on Firebase FaaS using Firebase realtime database.
- Designed the smartphone application, made wireframes and user stories. Also developed and maintained the Android version.
- Implemented and optimized a computer vision algorithm in the Android application which was able to scan restaurant bill receipts and automatically extract information like date, time, bill amount, dishes bought etc. This algorithm utilized Google Mobile Vision API and produced high accuracy results which made it the backbone of the business.
- Coded internal tools, automation scripts and business analytics in Python using libraries including SciPy & Seaborn (for visualization).

SciFlair Labs, SEECS, NUST. Islamabad, Pakistan

*Software & Embedded Systems Engineer* - Backend, Machine Learning, Android, Embedded July 2015 - September 2015

- Designed and developed a machine learning algorithm that was capable of using a person's gait as a basis for biometric identification
- Made the prototype hardware for gait capture using Atmel microcontroller, wireless BT modules and accelerometer+gyro modules
- Developed an Android application that captured gait using smartphones' internal motion sensors for the production version of system
- Developed backend services that captured the data coming from users and then relayed it to the ML algorithm running in MATLAB

MindGames Art Exhibition Sydney, Australia (remote)

*Software Engineer* - Java September 2014 - January 2015

- Wrote services in Java that interfaced with a wearable EEG headset hardware and captured its data communicated over the serial port
- Implemented backend services that analyzed the neural activity data and quantified parameters like *focus* & *attention* of the wearer
- Designed and developed a computer game in Java (using Processing visualizing library) that challenged the players focus and attention levels.

## Education

School of Electrical Engineering & Computer Science, NUST. Islamabad, Pakistan

*B.Eng. Electrical Engineering* - Embedded Systems September 2013 - June 2017

- Cumulative GPA: 3.15/4.0 | Relevant classes: Data Structures & Algorithms, Object Oriented Programming, Machine Learning, Digital Image Processing, etc.
- Honors & Awards: Scholarship for excellent performance (2014-2015); 3rd best industry adjudged senior design project at NUST SEECS Open House (2017)

Government College University. Lahore, Pakistan

*HSSC (High School)* - Pre Engineering (Cumulative GPA: 83%) August 2011 - May 2013

## Languages

- **English:** full professional proficiency, excellent communication skills.
- **Urdu:** native/bilingual proficiency.
- **Deutsch:** beginner/elementary proficiency