



ABDULLAH ASHFAQ

PERSONAL INFORMATION

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EDUCATION

Masters of Science in Data Science 2025
Halicioglu Data Science Institute (HDSI), UC San Diego

Bachelor of Electrical Engineering 2020

Knowledge Area - Computer Engineering

SEECS, National University of Sciences and Technology (NUST), Islamabad, Pakistan

- CGPA - 3.99/4.0
- 2nd Rank in a Batch of over 150
- NUST ranked 1st in Pakistan by QS in Electrical Engineering and Computer Sciences


Pre-Engineering - High School 2015

Overseas Pakistanis Foundation, Islamabad, Pakistan

- Percentage - 93%
- Secured 1st rank among 12,000 students


RESEARCH EXPERIENCE AND PROJECTS

Research Intern for Machine Learning and AI 2017 - 2019

TUKL-NUST Research and Development Center 

- **ML on Chip (Capstone Project)** **Tools :** Vivado HLS (C++), Python, Pytorch
 - Simulated bit-accurate hardware design in Python and then wrote it in C++ to be translated to HDL using Vivado HLS
 - Identified bottlenecks in performance and tried different micro-architectures to avoid them
 - Achieved timing, power, area and latency requirements
 - Interfaced IP with bare metal application and debugged hardware using logic analyzer
 - Achieved 3.36x times speedup on PYNQ-Z1 board over Intel-i7 CPU with negligible accuracy loss
- **Computer Vision Algorithms on FPGAs (Personal Project)** **Tools :** Vivado-HLS
 - Implemented the algorithm for image binarization using integral image on FPGA


Summer Research Intern June 2019 - September 2019

Processor Architecture Lab (LAP) , EPFL 

- Alpha-tester for a dynamically scheduled high-level synthesis tool
- Worked with Lana Josipovic and Andrea Guerrieri on benchmarking and debugging the tool and making the experience more user-friendly
- Synthesized CHStone benchmarks using this tool and compared resource utilization and performance against other HLS tools


WORK EXPERIENCE

Technical Delivery Consultant - Professional Services Jan 2022 - Present

Totogi, US  **Tools :** Python, Flask, GraphQL, AWS, Docker, Kubernetes

- [ETL] : Designed a migration tool which was 30x faster than existing solutions and successfully migrated over 50 customer accounts using it.
- [Software Development] : Deployed and integrated Facebook's Magma Core with Totogi OCS. Used Docker, Kubernetes, Terraform and AWS during this deployment.
- [Solutions Architecture] : Designed and implemented tools and services for facilitating demos and internal teams and wrote documentation for these.
- [Kernel Module Development] : Migrated legacy software (C/C++) from RHEL7 to RHEL8 saving the company USD 3 Million
- [API Testing] : Wrote custom tools in Python for automated monitoring and testing of company's open-source APIs

Data Scientist - Production July 2020 - Jan 2022

Afiniti, Bermuda  (Remote)

Tools : Stan, R, Python, MySQL

DS Applications : Customer Segmentation, Churn Prediction, LTV Prediction

- Created and productionized models that intelligently pair customers and agents in a call center environment based on their behaviour and delivered up to 4% revenue gain
- Designing optimizable metrics
- Automated monitoring of production environment and freed time of AI Production team by 20%
- Designed dashboards and tools using machine learning and statistics to aid in identification of common issues
- Ensured data integrity by designing automated alerts as well as visualizations
- Collaborated with cross-functional teams to identify business issues and translated business problems and insights into data science problems

SKILLS

Programming Languages : C, C++, Python, R, JavaScript

Certifications : AWS Cloud Practitioner, AWS Solutions Architect

Databases : MySQL, Greenplum, Athena, GraphQL

DL/ML Frameworks : Pytorch, Tensorflow, Caffe, Keras, Scikit-Learn

DevOps Tools : Docker, Git, Kubernetes, Shell Scripting

Worked on DS Problems : Customer Segmentation, Churn Prediction, Revenue Optimization

LEADERSHIP EXPERIENCE

Afiniti

2021-2022

- Successfully led AI team of 6 people comprising of data scientists, data analysts and data engineers
- Created a healthy environment conducive to innovation in my team and personally coached struggling members

ACHIEVEMENTS AND AWARDS

Summer@EPFL Internship Program

2019

Acquired summer internship at EPFL, Switzerland. Worked at Processor Architecture Lab (LAP) under the supervision of Professor Paolo Ienne.

Value : 5,000 USD. Acceptance Rate \approx 1%

CERN Openlab Internship Program - 2X

2019 & 2020

Selected for this program among 4000 applicants. Assigned to work on the project "Fast Inference on FPGAs for HEP trigger systems". PASSED

Value : 7,800 USD. Acceptance Rate \approx 7.5%

KAIST EE Camp

2018

Among the 12 Pakistani students selected for the camp at KAIST, South Korea. Over there, I attended seminars and meetings on the latest research trends in EE at KAIST

Value : 3,000 USD. Acceptance Rate \approx 2%

US Dept. of State Global UGRAD Exchange Scholarship

January 2018 - May 2018

Cultural Ambassador of Pakistan in USA. Under this program, I spent one semester at Utah State University, USA. I delivered presentations on Pakistan and completed 20 hours of community service.

Value : 33,000 USD. Acceptance Rate \approx 2%

Merit Scholarship for all semesters

September 2015 - present

Value : 900 USD

Fellowship Award - Passed

February 2017

Offered a fellowship in an engineering organization after graduation and complete financial support for the duration of my degree.

Value : 9,000 USD initial, 10,000 USD Annual. Acceptance Rate \approx 1.5%

Gold Medal

June 2015

Secured first position from among 12,000 students in HSSC (central high school exam). Final Percentage - 93%. Scored almost 100 % in Mathematics, Physics and Chemistry. Received medal from the then **President of Pakistan, Mamnoon Hussain**.

Additional Cash Prize : 750 USD

EXTRA- CURRICULAR ACTIVITIES

Community Service

Volunteered with following organizations :

- Chaadar :

2015 - 2019

Teaching street children and gathering clothes and food for the underprivileged

- Best Buddies :

January 2018 - May 2018

Spending time with people who have intellectual and developmental disabilities

- Grand Friends

January 2018 - May 2018

Doing activities with elderly people at an old home

Student Organizations

Served as a member at following organizations :

- Student Government Association (SGA) :

September 2015 - September 2016

Facilitated collaboration between student organizations and school administration.

- Youth Entrepreneurial Society (YES) :

September 2015 - September 2016

Organized workshops on freelancing.