Ahmad Khan

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Education

ETH Zürich   *Zürich, Switzerland*
M.Sc. in Computer Science   *Sep. 2023 - Nov. 2025*
- Got a Chun Shin-Il Scholarship which is given to promising students in CSE Dept.

Carnegie Mellon University in Qatar   *Doha, Qatar*
B.Sc. in Computer Science   *Aug. 2017 - May. 2021*
- Got a Chun Shin-Il Scholarship which is given to promising students in CSE Dept.

Work Experience

IBM Research   *Zürich, Switzerland*
Machine Learning Engineer (Master's Thesis)   *May. 2025 - Present*
- Provisioned an easily managable hybrid infrastructure(Amazon AWS + On-premise) utilizing IaC(Infrastructure as Code) tools like Ansible, Packer and Terraform.
- Built fully automated CI/CD pipelines on CircleCI for containerized applications using Docker, AWS ECR and Rancher.
- Designed an overall service architecture and pipelines of the Machine Learning based Fashion Tagging API SaaS product with the micro-services architecture.
- Implemented several API microservices in Node.js Koa and in the serverless AWS Lambda functions.
- Deployed a centralized logging environment(ELK, Filebeat, CloudWatch, S3) which gather log data from docker containers and AWS resources.
- Deployed a centralized monitoring environment(Grafana, InfluxDB, CollectD) which gather system metrics as well as docker run-time metrics.

Qatar Computing Research Institute   *Doha, Qatar*
Software Engineer   *Oct. 2021 - Sep. 2023*

Quickbyte   *Doha, Qatar*
Founding Software Engineer   *Dec. 2020 - June. 2021*
- Lead engineer on agent-less backtracking system that can discover client device's fingerprint(including public and private IP) independently of the Proxy, VPN and NAT.
- Implemented a distributed web stress test tool with high anonymity.
- Implemented a military cooperation system which is web based real time messenger in Scala on Lift.

Carnegie Mellon University   *Doha, Qatar*
Research Assistant   *Jan. 2013 - Feb. 2013*
- Developed in Cocos2d-x an action puzzle game(Dragon Buster) targeting U.S. market.
- Implemented API server which is communicating with game client and In-App Store, along with two other team members who wrote the game logic and designed game graphics.
- Won the 2nd prize in final evaluation.

Projects

Quriosity: Analyzing Human Questioning Behavior and Causal Inquiry through Curiosity-Driven Queries   *Seoul, S.Korea*
Submitted to EMNLP for review. Preprint at https://arxiv.org/pdf/2405.20318   *Nov. 2017*
- Introduced the history of web technology and the JAM stack which is for the modern web application development.
- Introduced how to freely host the web application with high performance utilizing global CDN services.

6th CodeEngn (Reverse Engineering Conference)   *Seoul, S.Korea*
Presenter for <DEFCON 20th : The way to go to Las Vegas>   *Jul. 2012*
- Introduced CTF(Capture the Flag) hacking competition and advanced techniques and strategy for CTF

Honors & Awards

2021	**Andrew Carnegie Society Scholar**, Carnegie Mellon University	*Pittsburgh, U.S.A*
2021	**Qatar Campus Scholar**, Carnegie Mellon University in Qatar	*Doha, Qatar*
2021	**Student Leadership Award with Distinction**, Carnegie Mellon University in Qatar	*Doha, Qatar*
2020	**Best Design award**, CarnegieApps Hackathon	*Doha, Qatar*
2019	**First Place**, Oman Collegiate Programming Competition	*Muscat, Oman*
2019	**First Place**, CMUQ Programming Competition	*Doha, Qatar*
2019	**First Place**, Qatar University Cybersecurity Competition organized by Thales	*Doha, Qatar*
2018	**Best Technology Prize**, CarnegieApps Hacakthon	*Doha, Qatar*
All Semesters	**Dean's Honors List**, Carnegie Mellon University in Qatar	*Doha, Qatar*

Extracurricular Activity

PoApper (Developers' Network of POSTECH) *Pohang, S.Korea*
CORE MEMBER & PRESIDENT AT 2013 *Jun. 2010 - Jun. 2017*

- Reformed the society focusing on software engineering and building network on and off campus.
- Proposed various marketing and network activities to raise awareness.

PLUS (Laboratory for UNIX Security in POSTECH) *Pohang, S.Korea*
MEMBER *Sep. 2010 - Oct. 2011*

- Gained expertise in hacking & security areas, especially about internal of operating system based on UNIX and several exploit techniques.
- Participated on several hacking competition and won a good award.
- Conducted periodic security checks on overall IT system as a member of POSTECH CERT.
- Conducted penetration testing commissioned by national agency and corporation.