

# Abdullah Ahmad Zarir

SOFTWARE ENGINEER

Canada

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## Objective

Creative Software Engineer looking for an engineering career that requires critical thinking and design of efficient algorithmic solutions to challenging problems.

## Summary

- 5+ years experience of competitive programming contests
- Ranked top in 5 national level programming competitions
- Qualified 4 times for ACM-ICPC Regionals
- 1 year experience as Software Engineering Intern
- 4 years experience as RA & TA of CS courses
- Authored 2 & collaborated on 4 research publications

## Experience

**SAIL (Software Analytics & Intelligence Lab)** | [sail.cs.queensu.ca](http://sail.cs.queensu.ca)

Kingston, ON, Canada

GRADUATE RESEARCH ASSISTANT

Sep. 2018 - Sep. 2019

- **Authored** two empirical research journal papers on large scale decentralized and distributed software systems.
- **Built & maintained** large scale crawlers written in python for mining software usage data.

TEACHING ASSISTANT

Sep. 2018 - Dec. 2018

- **Mentored** 6 groups of 36 students in their Software/Game Architecture course project in CISC 322/326.

**Quintiq, a Dassault Systèmes company** | [quintiq.com](http://quintiq.com)

Kuala Lumpur, Malaysia

SOFTWARE ENGINEERING INTERN, SQC

Jun. 2017 - Mar. 2018

- **Learned** proprietary language QUILL in 2 weeks and **implemented** a supply chain simulation of a paper mill to monitor its KPIs in real time.
- **Built** a distributed and parallel testing framework for iOS and Android mobile devices using the open-source Selenium and Appium automation library that **reduced** testing runtime by more than 80%.
- **Built** a CLI application using python to monitor and disperse test tasks to the distributed testing framework.

**Dept. of Computer Science, IIUM** | [bit.ly/2FY5siA](http://bit.ly/2FY5siA)

Gombak, Kuala Lumpur, Malaysia

UNDERGRADUATE RESEARCH ASSISTANT

Jan. 2016 - Apr. 2017

- **Collaborated** on 5 research paper exploring Machine Learning and Cloud Computing.

TEACHING ASSISTANT

Jan. 2014 - Apr. 2017

- **Taught** tutorial classes, **designed & graded** lab works and projects and **mentored** project groups.

## Technical Skills

### Programming Languages

C, C++, Java, Python, JavaScript, PHP, R, SQL, Regular Expressions & Assembly (MIPS)

### Frameworks & Libraries

SOLID, MVC, REST, Android, OpenCV, TensorFlow, Scikit-Learn, Flask, NodeJS, ReactJS, etc.

### Core Environment & Deployment

Linux, Windows, Git, Docker, NginX, Apache, Tmux, Vim, Eclipse, VStudio, etc.

### Testing & Automation

JUnit, PyTest, Selenium, Appium, Jenkins, Shell Scripting, etc.

### Cloud Services

GitHub, BitBucket, DigitalOcean, AWS, Firebase, Google Cloud, BigQuery, etc.

## Projects

### Serving Captions for Images in Near Real-Time on Android

2017

- **Designed and developed** a system to provide automated image captions for pictures taken with android mobile devices in near real-time.
- **Built** an image to text generation model based on Google's Inception-V3 network and trained on Microsoft's COCO dataset.
- **Built** an Android App to fetch captions for pictures from a trained image to text TensorFlow model set in an Ubuntu system at Digital Ocean through Firebase communicating with an Nginx server via a Nodejs script.

**TOOLS:** FIREBASE, DIGITALOCEAN, UBUNTU, NGINX, NODEJS, PYTHON, JAVA, TENSORFLOW, ANDROID

### Faulty Medicine Strip Detection in Conveyor Belt

2015

- **Designed and developed** a system to capture and process individual medicine strip from the video stream of a running conveyor belt.
- **Built** a simple ANN classifier using native python to classify faulty packaging of individual pills in a medicine strip.
- **Built** a tKinter based GUI interface for monitoring and reporting detection of faulty packaging of specific pills in a medicine strip.

**TOOLS:** ARDUINO, C/C++, PYTHON, OPENCV, TKINTER

## CNC Machine Controller for Circuit Board Design

2014

- **Developed** from scratch a system that parses and executes G-code instructions to control the positioning of the nib of a pen/drill.
- **Built** a tkinter based GUI interface for writing G-code instructions and for controlling the CNC machine.

**TOOLS:** ARDUINO, C, PYTHON, TKINTER

## Honors & Awards

2017	<b>Honorable Mention (Team IIUM)</b> , ACM-ICPC Asia Regional   Mahidol University	Nakhon Pathom, Thailand
2017	<b>1st Place (Out of 50) (Team Zeroth)</b> , Unicode Programming Competition   Monash University	Kuala Lumpur, Malaysia
2016	<b>2nd Place (Out of 43) (Team WilderCodes)</b> , ACM-ICPC Malaysia National   IIUM	Gombak, Malaysia
2016	<b>1st Place (Out of 30) (Team MasterMinds)</b> , Open Programming Competition   USIM	Nilai, Malaysia
2015	<b>Honorable Mention (Team MasterMinds)</b> , ACM-ICPC Asia Regional   National University Singapore	NUS, Singapore
2015	<b>3rd Place (Out of 60) (Team IIUM A) [bit.ly/2NFaqXO]</b> , Intelligent Car Racing   Freescale Cup	Johor Baru, Malaysia
2014	<b>Honorable Mention (Team Void)</b> , ACM-ICPC Asia Regional   IIUM	Gombak, Malaysia
2014	<b>4th Place (Out of 61) (Team Void)</b> , ACM-ICPC Malaysia National   Universiti Teknologi PETRONAS	Seri Iskandar, Malaysia
2012	<b>Honorable Mention (Team Origin)</b> , ACM-ICPC Regional   Daffodil University	Dhaka, Bangladesh

## Education

**Queen's University** | [queensu.ca](http://queensu.ca)

Kingston, ON, Canada

M.Sc. IN SCHOOL OF COMPUTING (RESEARCH)

Sep. 2018 - Sep. 2019

- CGPA: 4.06/4.3
- Thesis Title: Studying the Gas Usage and Price of Transactions in the Ethereum Blockchain Platform
- Courses: Data Mining, Deep Learning, Software Repository Mining, Software Re-engineering, and Research Methods

**IIUM (International Islamic University Malaysia)** | [iiu.edu.my](http://iiu.edu.my)

Gombak, Kuala Lumpur, Malaysia

B.Sc. IN DEPARTMENT OF COMPUTER SCIENCE

Sep. 2013 - Apr. 2018

- Major GPA: 3.92/4.0
- Academic Excellence Scholarship, Dean's List (Six Semesters)
- Selected Courses: Software Engineering, Algorithm Analysis & Design, Machine Learning, Natural Language Processing and Cryptography

## Publications

### First Author

- Zarir, A. A., Oliva, G. A., Jiang, Z. M., & Hassan, A. E. (2019). **An Empirical Study of the Gas Usage of Smart Contract Transactions in the Ethereum Blockchain Platform.** *Empirical Software Engineering*, under review.
- Zarir, A. A., Oliva, G. A., Jiang, Z. M., & Hassan, A. E. (2019). **How Much do Users Pay for Blockchain Transactions? An Exploratory Study of Gas Price in the Ethereum Blockchain Platform.** *Empirical Software Engineering*, under review.

### Second & Third Author

- Amri, A. A., Zarir, A. A., & Ismail A. R. (2018). **Comparative Performance of Deep Learning and Machine Learning Algorithms on Imbalanced Handwritten Data.** *International Journal of Advanced Computer Science and Applications*, Vol. 9. No. 2.
- Farooq, A., Mohammad, E. U. D., Zarir, A. A., Ismail, A. R., & Sulaiman, S. (2018). **Real-time Human Action Recognition using Stacked Sparse Autoencoders.** *Indian Journal of Science and Technology*, 11(4), 1–6.
- Amri, A. A., Zarir, A. A., & Ismail, A. R. (2017). **Convolutional Neural Networks and Deep Belief Networks for Analysing Imbalanced Class Issue in Handwritten Dataset.** *International Journal on Advanced Science, Engineering and Information Technology*, 7(6), 2302–2307.
- Diallo, L., Hashim, A. H. A., Olanrewaju, R. F., Islam, S., & Zarir, A. A. (2016). **Two Objectives Big Data task Scheduling using Swarm Intelligence in Cloud Computing.** *Indian Journal of Science and Technology*, 9(28).

## Extracurricular Activity

**CodeKnights (Online Programming Contest Platform)** | [www.codeknights.org](http://www.codeknights.org)

Kuala Lumpur, Malaysia

FOUNDING MEMBER

2016 - 2017

- **Organized** programming contests curated for Malaysian undergraduate students and **trained** them for competitive programming.

**CommunityAction (Student-run Volunteer Organization in Bangladesh)** | [www.ca-bd.org](http://www.ca-bd.org)

Bangladesh

LOGISTICS EXECUTIVE

2011 - 2013

- **Gained** experience in planning and executing critical public events specially in conditions with scarce resources.
- **Collaborated** with CSR division of multiple companies and **managed** a diverse range of charity projects.

**Tedx Dhaka** | [www.tedxdhaka.com.bd](http://www.tedxdhaka.com.bd)

Dhaka, Bangladesh

ORGANIZING COMMITTEE VOLUNTEER

2012

- **Designed** and **edited** name cards of all the registered participants.
- **Wrote** my experience of the event in the national weekly magazine the Star Campus [bit.ly/2Yv6rBs].