Abdullah Ahmad **Zarir**

SOFTWARE ENGINEER · DATA SCIENTIST

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Summary

- Authored 2 & collaborated on 4 research publications
- Placed top in 5 national level programming competitions
- More than 2 years experience as RA
- Qualified 4 times for ACM-ICPC Regionals
- 1 year experience as Software Engineering Intern
- 4 years expereince as TA of multiple CS courses

Experience

SAIL (Software Analytics & Intelligence Lab) | 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.
- Evaluated and graded presentations and quizzes of 147 students in the Software/Game Architecture course (CISC 322/326).

Quintiq, a Dassault Systèmes company | quintiq.com   *Kuala Lumpur, Malaysia*

SOFTWARE ENGINEERING INTERN, SQC   *Jun. 2017 - Mar. 2018*

- Learned proprietory languange QUILL in two 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 reducing testing runtime by more than 80% based on the open-source Selenium and Appium automation library.
- Built a CLI application to monitor and disperse test tasks to the distributed testing framework.

Dept. of Computer Science, IIUM | bit.ly/2FY5siA   *Gombak, Kuala Lumpur, Malaysia*

UNDERGRADUATE RESEARCH ASSISTANT   *Jan. 2016 - Apr. 2017*

- Collaborated on 5 reseach paper exploring Machince Learning and Cloud Computing.
- Implemented simulations and built models in C++, Python and Java as per specifications of the reasearch work.

TEACHING ASSISTANT   *Jan. 2014 - Apr. 2017*

- Conducted tutorial classes, designed & graded lab works and projects and mentored project groups.
- Courses: Computer Archi. & Assembly, Data Structure, Principles of AI, Web Programming, Calculus & Linear Algebra and C++ Programming.

Technical Skills

Programming Languages	C/C++, Java, Python, JavaScript, PHP, R & Assembly (MIPS)
Frameworks & Libraries	OpenCV, TensorFlow, Scikit-Learn, NLTK, Flask, Android, NodeJS, jQuery, ReactJS, Laravel, etc.
Operating Systems	Linux & Windows
Core Environment	Git, Vim & Tmux
Cloud Services	GitHub, DigitalOcean, Firebase, BigQuery, etc.

Honors & Awards

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

Education

Queen's University | 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) | iium.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).

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 Firbase 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, process, and filter out 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

Extracurricular Activity

CodeKnights (Online Programming Contest Platform) | www.codeknights.org   *Kuala Lumpur, Malaysia*

Founding Member   *2016 - 2017*

- Organized programming contests curated for Malaysian undergraduate students and trained them for competitive programming.
- Designed and implemented problem sets for contests using Polygon system by Codeforces.

CommunityAction (Student-run Volunteer Organization in Bangladesh) | 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.

TedxDhaka | www.tedxdhaka.com.bd   *Dhaka, Bangladesh*

Organizing Committee Volunteer   *2012*

- Designed and edited namecards of all the registered participants.
- Managed the registration process and other logistic supports on the day of the event.
- Wrote my experiance of the event in the national weekly magazine the Star Campus [bit.ly/2Yv6rBs].