



MOHAMMAD SHAKER

Holder of Exceptional Talent Visa - Tier 1

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BACKGROUND

I drew a lot in my childhood and turned out as a computer engineer in my adulthood. I published 10 research papers in machine learning and creativity tools as an undergrad, nominated for best paper award 4 times, worked in Squa: the hottest startup in the Netherlands by wired.com, wrote and drew a book on behavioral economics and taught 1500 learners programming languages. In 2018, I was endorsed by TechCity UK as an Exceptional Talent - Tier 1. I'm currently leading the software development work at Neurofenix: a multi-award-winning startup helping stroke survivors. I'm interested in art, machine learning, creativity and education. My favorite writers are Seneca and Nassim Taleb. Therefore, I very much hate imposters.

EDUCATION

- **MSc. in Human-Computer Interaction and Ubiquitous Computing** 2014-2015
Joseph Fourier University, Grenoble, France.
- **BEng. (with Honors) in Information Technology Engineering and Artificial Intelligence** 2008-2013
Faculty of Information Technology Engineering, University of Damascus, Syria.
- **[Coursera] Specialization in Graphic Design** 2019
100% across 5-Course Specialization. California Institute of the Arts, CalArts.

AWARDS & HONORS

- **Tier1-Exceptional Talent** 2018
Endorsed by TechCity UK as an Exceptional Talent.
- **Albasel Award for Academic Excellence** 2013, 2012, 2011
Awarded the most prestigious award for academic excellence three times in a row - Faculty of Information Technology Engineering, Damascus, Syria.

EXPERIENCE

- **Software Development Lead - Neurofenix** Q3 2018-Now
Currently rebuilding the software architecture of Neurofenix and building the backend backbone and API. We're working on Neuroball: a controller used by the stroke survivor's impaired hand to play videogames.
- **Entrepreneur in Residence, Dubai Future Accelerator (DFA)** Q2 2018
2-month program. Working alongside the government to use machine learning techniques to solve problems in big companies. (AWS Lambda, AWS Dynamodb, Nodejs, Javascript.)

- **Software Engineer - Squla ([One of the five fastest growing startup in the Netherlands](#))**
Jul 2016-
May 2018

Developing an education platform for children to both learn and play. Working using Scrum in 2-week sprints. Responsible for cross-framework integration from backend to frontend and api design. Also co-worked on the first multiplayer game by Squla using WebSocket servers. (Python, C#, Java, TDD, Selenium tests, SQLAlchemy, Jenkins, babel in the backend and Javascript, jQuery, backbone.js and Unity3D engine in the frontend.)

- **Machine Learning Researcher - ITU of Copenhagen, Denmark**
2013-
2015

Worked in the Design Innovation Lab implementing new ideas in machine learning in the domains of procedural content generation, emotions modeling and novel creativity tools. My work on [Ropossum](#) was featured in Game Developer Conference (GDC) and [Gamasutra](#). 10 research papers in main conferences have been published with 4 nominated for best paper award.

- **Creative Work**
2013-
Now

Don't Think of a Red Milk: The first Arabic book on Behavioral Economics with comics and unsettling art. I designed, drew and wrote the book. Read the book [here](#).

Games in Google Store: Developing my own games, end-to-end. Released 4 games on Google Play.

Botian: prototyping a UX-based Bot that delivers smoother UX experience than other bots in the market. The first version is a Bot to replace the customer service in the [Housing Establishment in Dubai](#). Take a look at a prototype [here](#).

- **Development Specialist - Syriatel (the Largest Telecom Company in Syria)**
Q1 2014

Migrated old services into a new configuration-over-implementation, xml-based, SaaS framework.

- **Instructor and Tutor**
2011-
2015

Teaching 25+ courses for more than 1500 learners in the domain of programming languages, mobile applications, computer graphics and game engines. All courses are available online on [slideshare](#).

PUBLICATIONS

Conferences

2. Noor Shaker, Mohammad Shaker and Mohamed Abou-Zleikha. [Towards Game-Independent Models of Player Experience](#), in Proceedings of Artificial Intelligence and Interactive Digital Entertainment (AIIDE 15), 2015. 2015
3. Noor Shaker, Mohamed Abou-Zleikha and Mohammad Shaker. [Active Learning for Player Modeling](#), in Proceedings of the 10th International Conference on Foundations of Digital Games, 2015. 2015
4. Mohammad Shaker, Noor Shaker, Julian Togelius and Mohamed Abu-Zleikha. [A Progressive Approach to Content Generation](#), in Proceedings of EvoGames: Applications of Evolutionary Computation, Lecture Notes on Computer Science, 2015. **Nominated for best paper award.** 2015
5. Walaa Baghdadi, Fawzyah Shams Aldeen, Rawan Al-Omari, Zeina Alhalwani, Mohammad Shaker and Noor Shaker. [A Procedural Method for Automatic Generation of Spelunky Levels](#), in Proceedings of EvoGames: Applications of Evolutionary Computation, Lecture Notes on Computer Science, 2015. **Nominated for best paper award.** 2015
6. Mohammad Shaker, Noor Shaker, Mohamed Abu-Zleikha and Julian Togelius. [A Projection-Based Approach for Real-time Assessment and Playability Check for Physics-Based Games](#) in Proceedings of EvoGames: Applications of Evolutionary Computation, Lecture Notes on Computer Science, 2015. **Nominated for best paper award.** 2015
7. Noor Shaker and Mohammad Shaker. [Towards Understanding the Nonverbal Signatures of Engagement in Super Mario Bros](#), in Proceedings of the 2014 Conference on User Modeling, Adaptation and Personalization (UMAP 2014), 2014. 2014

8. Mohammad Shaker, Noor Shaker and Julian Togelius. [Evolving Playable Content for Cut the Rope through a Simulation-Based Approach](#), in Proceedings of Artificial Intelligence and Interactive Digital Entertainment (AIIDE 13), 2013. [Poster] 2013
9. Mohammad Shaker, Noor Shaker and Julian Togelius. [Ropossum: An Authoring Tool for Designing, Optimizing and Solving Cut the Rope Levels](#), in Proceedings of Artificial Intelligence and Interactive Digital Entertainment (AIIDE 13), 2013. 2013
10. Mohammad Shaker, Mhd Hasan Sarhan, Ola Al Naameh, Noor Shaker and Julian Togelius. [Automatic Generation and Analysis of Physics-Based Puzzle Games](#), in Proceedings of the 2013 IEEE Conference on Computational Intelligence and Games (CIG 2013), 2013. **Nominated for best paper award.** 2013
11. Noor Shaker, Mohammad Shaker, Ismaeel Abuabdallah, Mehdi Zonjy, and Mhd Hasan Sarhan. [A Quantitative Approach for Modeling and Personalizing Player Experience in First-Person Shooter Games](#), in the Extended Proceedings of the 2013 Conference on User Modeling, Adaptation and Personalization (UMAP 2013), 2013. [Poster] 2013

SIDE PROJECTS [full list on my website]

- [Botian: UX-based Chatbot](#): Using MEAN stack working on the first Arabic Bot that can deliver a full understanding of the Arabic Language. The first version is a Bot to replace the customer service in the [Housing Establishment in Dubai](#). Take a look at a prototype [here](#). 2017
- [Games and Apps](#): Released 4 Android games ([Thex](#), [Paper Ski](#), [Flopp](#) and [SyncSeven](#)), end-to-end, using *Selene*, a high-performant framework I built on top of the Unity3d game engine. *Selene* has its own Inversion of Control (IOC) framework with PubSub mechanism, making Unity development 10x faster. [Unity3d, Reflection, Publish/Sub, C#, Java, Matlab, AI, Facebook API, Twitter API, Google Play Services] 2015-2016
- [Ropossum Authoring Tool, Procedural Content Generation for 2D Physics based games](#): Advancing the state-of-the-art, Ropossum is the first evolutionary-based authoring tool for the generation of playable content for physics-based games. 4 papers have been nominated for best paper award. [C#, Java] 2014
- [Personalizing Content Generation in First Person Shooter Games through Player Modeling](#): Procedurally generating levels for First Person Shooter games using machine learning techniques (Neuro-evolution Preference Learning and Emotions Modeling.) [Cube Engine, C++, Java, Matlab] 2012
- [Radio Frequency Identification \(RFID\) Real-time 3D Tracking System](#): The system enables realtime monitoring of an organization using RFID tech, 3D mobile and web environments. The system was implemented in the University of Information Technology in Damascus, Syria. [C#, WCF, SQL Server, WPF-3D] 2011
- [\[Lead\] Immersive 3D Environment using Kinect and Voice Commands](#): Enables the designer/gamer to design his/her own 3D world with gesture and voice commands. [Unity3d, C#, Kinect] 2014
- [\[Lead\] Weebee on a Mission](#): is a serious game that can detect, track and change the child behavior. [Unity3d, C#] 2014

DEV TOOLS

Programming Languages | C#, Java, Python, C++, VB, Pascal

Web Development	JavaScript, Nodejs, AngularJS, Bootstrap, HTML, CSS, Jinja, MySQL, SQLAlchemy, AWS, AWS Lambda, Selenium tests, Test driven development (TDD), Pytest, WebSocket, NoSQL, XML, JSON
Mobile Development	Android, Windows Mobile
Engines and Graphics	Unity3d, OpenGL, XNA, WPF
AI and Machine Learning	LISP, Prolog, Matlab, Genetic Programming, Grammatical Evolution, Neural Networks, Preference Learning, Neuro Evolution, Features Selection, Clustering
Others	Scrum, Agile, api design, RESTful Webservices, Jenkins, babel, MVC, MVVM, Inversion of Control (IoC), Reflection, Publish/Subscribe

LANGUAGES

Arabic	Native
English	Bilingual proficiency (TOEFL PBT: 590)
German	Limited working proficiency
French	Elementary proficiency

INTERESTS

Beauty • Nassim Taleb • Green Tea • Nissan GT-R • Books • LEGO • Swimming • Art • Minimalism • Languages