

MARWA ALALAWI

Riffa,
Kingdom of Bahrain

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[malalawi.github.io](https://github.com/malalawi)

EDUCATION

Massachusetts Institute of Technology (MIT)

Cambridge, MA

- BSc. in Mechanical Engineering
 - MIT Fabrication Lab '19
 - Additional coursework in EECS
 - Concentration in Advanced Modern Japanese
- GPA: 4.8/5.0

May, 2020

Phillips Academy Andover

Andover, MA

- *Cum Laude* Honor Society.
 - Accelerated AP Physics, Math, Chemistry
- GPA: 5.7/6.0

June, 2016

Khawla Secondary Girls School

Manama, Bahrain

- Ranked First in Bahrain.
 - Bahrain Tawjihiya Degree, Concentration in math and physics
- GPA: 99.9%

June, 2014

RESEARCH EXPERIENCE

Device Realization Group (MIT, Mechanical Engineering)

Cambridge, MA

Advisors: Brian Anthony, Yuwei Li

Sep 2019- May 2020

- Developed a Virtual Reality (VR) environment at MIT Nano's Immersion Lab, with wearable sensors for human physiological measurements, to investigate user presence in VR
- Presented research to an audience of 50 as part of MIT Nano Seminar Series
- Published Undergraduate thesis titled "Design of a Virtual Environment for Physiological and Subjective Monitoring of User Presence in VR"

Personal Robots Group (MIT, Media Lab)

Cambridge, MA

Advisors: Cynthia Breazeal, Safinah Ali

Feb 2019- Sep 2019

- Developed an android application with Kotlin for child-robot text-to-speech communication with Jibo the robot

MIT Biomimetics Lab (MIT, Mechanical Engineering)

Cambridge, MA

Advisor: Meng Yee (Michael) Chuah

June- Sep 2017

- Aided with fabrication of stress field footpad sensor for documentation of overall fabrication

TEACHING EXPERIENCE

Teaching Assistant, Product Engineering Processes (MIT 2.009)

Remote

Aug 2020-Present

- Lead creative for virtual theme reveal concept, costume design, and animation
 - ▶ Animation media release: <https://2s009.com/animatedTheme>
 - ▶ Costume design media release: <https://2s009.com/kindKillian>

Undergraduate Teaching Assistant, Toy Product Design (MIT 2.00b)

Cambridge, MA

Feb- May 2020

- Mentored a team of six MIT undergraduate students on toy design ideation and fabrication.
- Guided 30+ undergraduate students with running shop machines and electronics through recitations and in-class lab sessions

Lead Instructor and Curriculum Developer, MIT International Science and Technology Initiative

Amman, Jordan

Jan- Feb 2020

- Led team of four to teach a 120 Jordanian high school students at the Amman Academy, and Jubilee School, in monthlong STEM program
- Developed a high school STEM curriculum focusing on product development and design, with hands-on workshops in Python, Arduino, UI/UX Design, and Unity

Teaching Assistant, MehtA+ Machine Learning Bootcamp

Online

May- Aug 2020

- Mentored 8 students with machine learning projects for peer-reviewed academic paper and poster session.
 - ▶ Projects include: Latin Translation with Machine Learning, Handwriting Recognition with Convolutional Neural Networks on Writings of George Washington: <https://mehtaplustutoring.com/mlpast/>
- Developed and taught online Python recitation for 40 students

MIT Maker-space Mentor, Makerlodge, Makerworkshop

Cambridge, MA

Sep 2017- March 2020

- Trained 50+ MIT Freshmen on shop machines (laser cutter, 3D printer, bandsaw, drill press, hand tools) through a two-day hands on project
- Supervised and assisted MIT undergraduate and graduate students on several shop machines (laser cutter, 3D printer, vinyl cutter, desktop CNC mill for PCB fabrication)

Undergraduate Teaching Assistant, Physics: Mechanics (MIT 8.01)

Cambridge, MA

Sep- Dec 2017

- Directed and assisted about 30 students with mechanics concepts during in-class problem-solving.
- Graded about 30 student problem sets on weekly basis

WORK EXPERIENCE

Junior Experience Designer, Universal Studios Japan

Osaka, Japan

- Postponed till Japan border reopening
- Future work includes design of VR experience for in-park attraction

XR Intern, GREE

Tokyo, Japan

June- Aug 2018

- Developed an educational VR game for Japan's National Space Agency (JAXA) and GREE's "Arienai" Kids Workshop using Unity and HTC VIVE
 - ▶ Game Media Release (Let's Experience the Size of the Moon!): <https://corp.gree.net/jp/ja/news/press/2019/0218-02.html>

PUBLICATIONS

- M. AlAlawi, "Design of a Virtual Environment for Physiological and Subjective Monitoring of User Presence in VR," B.Sc. thesis, Massachusetts Institute of Technology, May 2020

PATENTS

- H. Castillo, Q. Ai, M. AlAlawi, B. Bennington, N. Das, K. Gavin, D. Goetz, V. Hunter, S. Ihns, C. Jordan, S. Le, G. Li, F. McKellar, L. Milde, V. Muldoon, R. Tse, K. Zheng. "Box Separating System" (**IN PREPARATION**)

PRESENTATIONS

- Presenting author of "*Design of a Virtual Environment for Physiological and Subjective Monitoring of User Presence in VR*" (cited above) at MIT Nano Seminar Series, Remote, April 2020

- M. AlAlawi, "*KanKan: Kanji to Katakana Physical OCR Translator*," Invited Speaker at University of Bahrain, Riffa, Bahrain, Jan 2019

- M. AlAlawi, "*Effect of Hair Dye Color on Hair Fracture Properties*," MIT Measurement and Instrumentation Poster Session, Cambridge, MA, Dec 2018

UNPUBLISHED WORK

-M. AlAlawi, "*Effect of Hair Dye Color on Hair Fracture Properties*," MIT Measurement and Instrumentation Poster Session, Cambridge, MA, Nov 2018

ACTIVITIES AND AWARDS

Crown Prince International Scholarship Recipient

Riffa, Bahrain
April 2014- Present

- Fully funded B.Sc. to Ph.D scholarship from the court of the Bahraini Crown Prince

MIT Pi Tau Sigma (PTS) Mechanical Engineering Honor Society

Cambridge, MA

MIT Media Lab "How to Make Almost Anything" Presenter

Cambridge, MA
Dec 2018

- Exhibited and demoed independent final project "KanKan: Kanji to Katakana Physical OCR Translator" to MIT Media Lab, professors, researchers and guests

▶ Full Documentation: tinyurl.com/MarwaKanKan

MIT Japan Student Ambassador

Cambridge, MA
June 2018- 2020

- Appointed as point person for MIT students in Japan
- Invited guest speaker at MIT Japan events and information sessions

MIT Digital Arts and Animation Group

Cambridge, MA
2017-2020

- *Vice President* (2019-2020), *Marketing Director* (2017-2019)
- Invited and handled all logistics for bringing guest speakers on campus
- Taught several digital art and illustration workshops on campus

Bahrain Ministry of Education: First in Bahrain (Title)

Bahrain
June (2011, 2014)

- Ranked first among all Bahraini public school students in high school (99.9%) and middle school (99.82%).

Ahmed Al Omran Award

Bahrain
June 2014

- Received financial award gifted to the Bahraini student ranked first (nationally) from Al Omran Family.

Bahrain Ministry of Education National Math Award

Manama, Bahrain
Oct 2012

- Awarded first place for the national Quality Education's Math Assessment by Bahrain Ministry of Education at the Royal Palace of Ghudaibiya, Bahrain.

SKILLS

Hardware: *Laser cutting, 3D printing, Drill pressing, Band sawing, CNC mill operation, PCB Design with Mill, Casting and molding, Vinyl cutting.* (Comfortable with various machine shops and hand tools).

Software: *C# (Unity), Python, Solidworks (CAD), Fusion360 (CAD + CAM), C++ (Arduino), HTML, CSS, KiCAD, Kotlin (Android Studio).*

Art & Design: *Storyboarding, 2D Animation, Digital Illustration (Raster and Vector), Clipstudio Paint, UI/UX, Adobe Suite (Illustrator, Photoshop, Premiere Pro, Animate, After Effects).*

Languages: *Arabic (native), English (bilingual), Japanese (JLPT N2, advanced)*

REFERENCES

Dr. Brian Anthony

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