Mina Khan

Contact:
+1 857-280-0613
minakhan01@gmail.com

EDUCATION

Massachusetts Institute of Technology (MIT) Media Lab 2018-2022
Doctor of Philosophy in Media Arts and Sciences **GPA: 5.0/5.0**
Thesis: Context-aware and Closed-loop Behavior Change using Artificial Intelligence

Massachusetts Institute of Technology (MIT) Media Lab 2016-2018
Master of Science in Media Arts and Sciences **GPA: 5.0/5.0**
Thesis: "Wonderland: Constructionist Science Learning in Mixed Reality"; Courses: How to Make (almost) Anything; How to Design almost Anything: Tools for well-being; Creative Learning; Human-Machine Symbiosis; Microfabricated Devices

Mount Holyoke College 2011-2015
B.A. in Mathematics, Physics & Computer Science **(Magna Cum Laude)** **GPA: 4.0/4.0**
Courses: Machine Learning; Artifical Intelligence; Real Analysis; Complex Analysis; Quantum Mechanics (I, II); Algorithms; Differential Equations; Theory of Computation; Electromagnetic Theory; Fluid Mechanics; Electronics

EXPERIENCE

MIT Media Lab - Research Assistant, Fluid Interfaces group — Jun '16 - Jun '22
Researching technologies to support human health & cognition. Projects: Mathland and PAL

MIT Media Lab - Teaching Assistant — Jan - Apr '19
Course: Cognitive Enhancement

IDEO - Summer Research Fellow — Jun - Aug '17
Developed a Mixed Reality application for constructionist physics learning in the real world

Google - Software Engineer, Project Aura: Google Glass & Beyond — May '15 - May '16
Created contextually- and emotionally-aware personalized applications for wearable devices

Udacity - Course Manager — Jun '14 - Mar '15
Courses: Machine Learning; Web Programming; Android Development; Python Programming

MIT Computer Science and Artificial Intelligence Lab - Researcher, Robot Locomotion Lab — Jun - Aug '14
Implemented Gröbner bases algorithms to efficiently solve robot locomotion problems

Scanning Probe Microscopy Lab - Undergraduate Research Student, Mount Holyoke College — Jan '12 - Jun '14
Designed nanostructures to exponentially increase storage capacity of magnetic memory devices

Swarm Robotics Lab - Undergraduate Researcher/Developer, Mount Holyoke College — Jan '13 - Dec '14
Implemented multi-robot formations using rigidity graph theory for swarm robots

National Corporation for Atmospheric Research - Research Intern, High Altitude Laboratory — Jun - Aug '13
Used satellite data to parameterize auroral energy and joule heating in upper atmospheric models

Mount Holyoke College - Teaching Assistant — Jan '11 - Dec '14
Linear Algebra; Electromagnetism; Data Structures; Discrete Math; Quantum Mechanics; Real Analysis

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PUBLICATIONS

Surveying User Needs for Computer-Related Breaks
Extended Abstracts, 2021 CHI Conference on Human Factors in Computing Systems. ACM, 2021. (submitting)
Khan, Mina, Advait Rane, P Srivatsa, Kathryn Wantlin, Zeel Patel, Elena Glassman, and Pattie Maes.

Combining Egocentric Visual & Physiological Contexts for Just-in-time Behavior Change Support
2021 AH : Augmented Human International Conference. ACM, 2021 (submitting for review)
Khan, Mina, Glenn Fernandes, Mayank Manuja, Akash Vaish, and Pattie Maes.

Surveying User Needs for Real-world Behavior Change Support
International Conference on Persuasive Technology, Springer, 2021 (Submitted)
Khan, Mina, Glenn Fernandes, and Pattie Maes.

Improving Context-aware Habit-support Interventions using Egocentric Visual Contexts
International Conference on Persuasive Technology, Springer, 2021 (Submitted)
Khan, Mina, Glenn Fernandes, Mayank Manuja, Akash Vaish, Pattie Maes, and Agnis Stribe.

PAL: A Wearable Platform for Real-time, Personalized, & Context-Aware Health & Cognition Support
arXiv preprint arXiv:1905.01352 (2019)
Khan, Mina, Glenn Fernandes, Utkarsh Sarawgi, Prudhvi Rampey, and Pattie Maes.

Mathland: Constructionist Mathematical Learning in the Real World Using Immersive Mixed Reality
International Conference on Immersive Learning. Springer, Cham, 2018.
Khan, Mina, Fernando Trujano, and Pattie Maes.

Mathland: Playful Mathematical Learning in Mixed Reality
Extended Abstracts of the 2018 CHI Conference on Human Factors in Computing Systems. ACM, 2018.
Khan, Mina, et al.

ARPiano: Efficient Music Learning Using Augmented Reality (Best Paper Award)
International Conference on Innovative Technologies and Learning. Springer, Cham, 2018.
Trujano, Fernando, **Mina Khan**, and Pattie Maes.

Towards Personalized Medicine: The Evolution of Imperceptible Healthcare Technologies
Foresight 2018. C Dagdeviren, **Khan M**., Sadraei A., et al.

TagAlong: Informal Learning from a Remote Companion with Mobile Perspective Sharing
Cognition and Exploratory Learning in Digital Age (CELDA) 2015.
Greenwald, S. W., **Khan, M**., Vazquez, C. D., & Maes, P.

Enabling Human Micro-Presence Through Small-Screen Head-up Display Devices
Extended Abstracts of the 2015 CHI Conference on Human Factors in Computing Systems. ACM, 2015.
Greenwald, S. W., **Khan, M**., & Maes, P.

A Multi-level Single-bit Data Storage Device. *Journal of Applied Physics 115.17 (2014): 17D511.*
Bickel, Jessica E., **Mina Khan,** and Katherine E. Aidala

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TALKS & EXHIBITS

Bees Of Science Exhibit 2019 (MIT Media Lab): LOVE: a flexible microfabricated breathing sensor tattoo

TEDxBeaconStreet 2017: Play, Power, & Passion: Falling in love with math

Ars Electronica 2017: Tangible AI: Physical Engagement with a social chatbot (Microsoft Zo)

AWARDS

FELLOWSHIPS & SCHOLARSHIPS

MIT Media Lab Learning Fellow (Full-year academic funding) 2018-2019

LEGO Learning Fellow (Full-year academic funding) 2017-2018

Google Anita Borg Scholar 2015

Sarah Williston Scholar (Mount Holyoke College) 2014

ACADEMIC HONORS

Magna Cum Laude (Mount Holyoke College) 2015

Sarah Williston Prize for **Academic Excellence** (Mount Holyoke College) 2013, 2014, 2015

Rogers Rusk Memorial **Prize in Physics** (Mount Holyoke College) 2015

Fennema & Strahman **Prize in Computer Science** (Mount Holyoke College) 2015

Mildred L Sanderson Prize for **Excellence in Math** (Mount Holyoke College) 2012

Bennet Prize for **Excellence in Physics** (Mount Holyoke College) 2012

Highest Achievement in A Level Mathematics (Cambridge International Examinations) 2011

Highest Achievement in A Level Further Math (Cambridge International Examinations) 2011

Highest Achievement in A Level Economics (Cambridge International Examinations) 2011

COMPETITIONS

Microsoft Design Expo Winner Holobits: Interactive storytelling in Mixed Reality 2017

Google Code Jam Winner 2014, 2015

SKILLS

Software: Machine learning (Tensorflow), Augmented & Virtual Reality (Unity), mobile (Android), and web (HTML/JS/CSS) development

Hardware: Microfabrication (cleanroom), Circuit design (Eagle), CNC milling, Laser cutting, & 3D design

Design: Adobe Creative Suite (Illustrator, Photoshop, InDesign, Premiere)