# Mina Khan

**http://khanmina.github.io/**
+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

**Personalized & Privacy-preserving Egocentric Visual Context Detection using On-device Deep Learning**
*28th ACM Conference on User Modeling, Adaptation & Personalization (Under review).* **Khan, Mina,** et al.

**Privacy-preserving Audio, Visual, and Physiological Contexts for Wearable Behavior Change Support**
*HEALTHI Workshop, 2021 ACM Intelligent User Interfaces Conference (Under review).* **Khan, Mina,** et al.

**Tracking Diverse Feelings and Activities Encourages Self-guided Holistic Behavior Change**
*Extended Abstracts, 2021 CHI Conference on Human Factors in Computing Systems. ACM, 2021 (Under review)*
**Khan, Mina,** and Pattie Maes.

**Changing Computer-Usage Behaviors: What Users Want, Use, and Experience**
*Extended Abstracts, 2021 CHI Conference on Human Factors in Computing Systems. ACM, 2021 (Under review)*
**Khan, Mina,** Kathryn Wantlin, Zeel Patel, Elena Glassman, and Pattie Maes.

**PAL: Wearable & Personalized Habit-support Interventions in Visual & Physiological Contexts**
*2021 AH : Augmented Human International Conference. ACM, 2021.* **Khan, Mina,** et al.

**Users want Diverse, Multiple, and Personalized Behavior Change Support: Need-finding Survey**
*International Conference on Persuasive Technology, Springer, 2021.* **Khan, Mina,** et al.

**Improving Context-aware Habit-support Interventions using Egocentric Visual Contexts**
*International Conference on Persuasive Technology, Springer, 2021.* **Khan, Mina,** et al.

**PAL: A Wearable Platform for Real-time, Personalized, & Context-Aware Health & Cognition Support**
*arXiv preprint arXiv:1905.01352 (2019)* **Khan, Mina,** G. Fernandes, U. Sarawgi, P. Rampey, and P. Maes.

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

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

**ARPiano: Efficient Music Learning Using Augmented Reality** (Best Paper Award)
*International Conference on Innovative Technologies and Learning. Springer, 2018.* F. Trujano, **M. Khan,** et al.

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

**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.

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## PUBLICATIONS

**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

## 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), Mixed Reality (Unity), Android and Web Development, Python.

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

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