Karishma Reddy Khan

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Education

Graduation: May 2021 — **Brandeis University | Waltham, MA**
PhD | Computer Science

Graduation: May 2017 — **Brandeis University | Waltham, MA**
Master of Arts | Computer Science

Graduation: May 2015 — **Mount Holyoke College | South Hadley, MA**
Bachelor of Arts | Magna Cum Laude
Majors: Physics and Theatre | Minor: Electrical Engineering

Experience

June 2016–Aug 2016 — **High Energy Physics Lab, Brandeis University Physics Department | Waltham, MA**
Programmer
- Developed a Matlab GUI to simulate experiments to map the human eye
- Developed image stitching algorithms to stitch together experimental data results

Sep 2015–Dec 2015 — **SAXSLAB U.S.A. | Northampton, MA**
Developer
- Company manufactures X-Ray scattering devices and analyzes scattering data
- Updated pre-existing Matlab 2012a GUI code to be compatible with Matlab 2015a

June 2015–Aug 2015 — **Molmex Scientific | Northampton, MA**
Intern
- Company designed and manufactured Small Angle X-Ray scattering devices
- Designed 3D models in SolidWorks which are currently in use on the devices
- Improved user interface of scattering devices using *spec*, a C-like language

May 2012–May 2015 — **Mount Holyoke College, Atomic Force Microscopy Lab | South Hadley, MA**
Research Fellow with Dr. Katherine Aidala
- Researched solar cell applications of nanoscale semi-conductors called Quantum Dots
- Studied crack formation in sub-monolayers of PbS Quantum Dots

June 2013–Aug 2013 — **Fermi National Accelerator Lab | Batavia, IL**
Research Student
- Worked with Wire Position Monitors (WPMs) used to detect motion in Linear Accelerator Cavities
- Developed a Matlab GUI to analyze data from WPMs that is still in use
- Demonstrated that Matlab is compatible with Fermilab's accelerator network

Projects

Oct 2016 – Ongoing — **Quantum Escapement:** Escape the room style game built using Blender and Python
Sep 2016 – Ongoing — **NanoTwitter:** Small scale Twitter app built using Ruby and Sinatra as a study in scalability
Aug 2016 – Ongoing — **CCD:** Matlab program that simulates a CCD camera using pixel bining and Riemann sums
Jan 2015 – May 2015 — **Turtle 2.0:** Arduino robot with IR driven object avoidance and RF dynamic communication

Skills

Software
Languages: Java, Matlab, Ruby, Scheme, Python, JavaScript, HTML, spec
Frameworks: Sinatra, Ruby on Rails
3D Animation: SolidWorks, Blender
Tooling: Git, LaTeX, MySQL

Hardware
Electronics: Arduino, analog and digital circuitry, oscilloscopes, soldering
Lab Skills: Atomic Force Microscopy, spin coating, plasma cleaning, machining