

Saqeeb Hassan

MSC · IMAGE PROCESSING SCIENTIST · RESEARCHER

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Summary

I'm an image processing scientist that recently received an MSc in Medical Biophysics. I worked on novel imaging pipelines and image quality evaluation metrics for faster MRI scar mapping in patients with ventricular tachycardia. I am most proficient in Python.

Skills

Programming	Proficient: Python. Comfortable: Pytorch, Pandas, Pillow, Matlab, Git. Some Experience: Java, Javascript, LaTeX
Research	Project-based work, Scientific and Technical Writing, Data Analysis, Operating an MRI Scanner
Science	Image Processing, Signal Processing, Machine Learning, Medical Imaging, Physics, MRI Physics

Education

M.Sc. in Medical Biophysics

Toronto, Canada

UNIVERSITY OF TORONTO

January 2018 - September 2021

- Reduced scan times for MRI scar mapping in ventricular tachycardia patients by over 70% by implementing novel, underutilized imaging pipelines and reconstruction techniques

B.Sc. in Physics, with Distinction

Kingston, Canada

QUEEN'S UNIVERSITY

September 2013 - June 2017

- Undergraduate thesis: Investigated rotational dynamics of disk galaxies by simulating them as a series of concentric massive rings which interact with one another gravitationally. This was to model the disk warping of galaxies such as [UGC 3697](#)

Work Experience

Sunnybrook Research Institute

Toronto, Canada

RESEARCH SCIENTIST

September 2021 - Present

- Developed two novel MRI sequences using the Javascript-based MRI platform 'RTHawk' by HeartVista to enable faster data acquisition in time-sensitive scans
- Developed image quality evaluation metrics for comparing novel imaging pipelines against the clinical standard to validate results. These included measurements for image sharpness and signal-to-noise comparisons
- Engaged with patients while operating the MRI scanner to ensure a good experience for them

Queen's University

Kingston, Canada

RESEARCH ASSISTANT

May 2016 - September 2016

- Organized and preprocessed data for a research lab investigating chronic kidney disease in rat models
- Evaluated the lab's data analysis needs and carried out the transition to Microsoft Access for database functionality
- Interacted with animals to perform daily data collection

Awards

2018-2019 **Queen Elizabeth II Graduate Scholarship in Science and Technology**, U of T and Province of Ontario

2019-2020 **Queen Elizabeth II Graduate Scholarship in Science and Technology**, U of T and Province of Ontario

Extracurricular Activity

Social Committee President

Toronto, Canada

GRADUATE STUDENT ASSOCIATION

January 2018 - January 2020

- Improved the graduate student experience by organizing social and networking events for students in the Department of Medical Biophysics
- Determined the best use of the events budget and developed strong interpersonal skills

Let's Talk Physics Symposium Co-organizer

Kingston, Canada

LET'S TALK SCIENCE

December 2016

- Led a team of physics students in organizing a successful science outreach effort hosting over 200 local high school students
- Was featured in a local newspaper article [here](#)