

Utkarsh Mali

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

Education

University of Toronto, Victoria College

H.B.Sc. in Physics, Mathematics and Computer Science

2018-2022

Research Experience

UNDERGRADUATE

Kilonovae Light Curves

University of Toronto

2021

Supervisor: Dr. Keir K. Rogers

Model fitting visible counterparts to gravitational wave events using Gaussian processes, principal components analysis and Markov-chain Monte-Carlo.

Image classification of Martian topographic features

University of Toronto

2020

Supervisor: Prof. Christopher Lee

Created an efficient scalable machine learning model using supervised machine learning methods, mask detection.

Circuit Quantum Electrodynamics

National University of Singapore

2020

Supervisor: Prof. Yvonne Gao

Exploring a software automating the discovery of superconducting qubits.

Organic Spectroscopy

National University of Singapore

2019

Supervisor: Dr. Krzysztof Banas

Rapid authentication of organic materials using Fourier Transform Infrared (FT-IR) spectroscopy using multivariate analysis.

Conference Posters

Department of Astronomy Summer Undergraduate Fair **University of Toronto**
Machine learning the visible counterparts to gravitational wave events: kilonovae 2021

Department of Physics Undergraduate Research Fair (Cancelled) **University of Toronto**
Analysis of topographic features on Mars using machine learning 2020

Conference Presentations and Invited Talks

Department of Astronomy Summer Undergraduate Presentations **University of Toronto**
Kilonovae: We don't know what we don't know 2021

Canadian Undergraduate Physics Conference 2020 **University of Western Ontario**
Analysing SCILLA: the discovery of superconducting qubits 2020

Center for Quantum Technologies **National University of Singapore**
Software developments on automated transmon discovery 2020

Arts and Science Undergraduate Research Fair **University of Toronto**
Rapid authentication of organic materials using FTIR spectroscopy 2019

Singapore Synchrotron Light Source **National University of Singapore**
Adulteration of Edible Bird's Nests 2019

Publications

1. Dylan Vogel, Avinash Naraiah Mukkala, Kimberly Ren, et.al: “*HERON: Demonstrating a Novel Biological Platform for Small Satellite Missions*” **Contributing Author**

Awards and Grants

Summer Undergraduate Research Grant
University of Toronto, \$9,393 2021

Summer Undergraduate Poster Award
University of Toronto, \$50 2021

Dean's Honors List
University of Toronto 2021

Natalia Krasnopskaia Memorial Research Fellowship

University of Toronto, \$3,159

2020

Undergraduate Research Grant

National University of Singapore, \$1,883

2020

Undergraduate Research Grant

National University of Singapore, \$3,766

2019

National Youth Achievement Award, Gold

Duke of Edinburgh, Singapore

2016

National Youth Achievement Award, Silver

Duke of Edinburgh, Singapore

2014

Professional Positions

Thermal Engineer*University of Toronto Aerospace Team*

2018-2020

- Designing and testing battery insulation
- Consultant for the payload bay insulation.
- Created and tested hardware components for ground station
- Surface mount, through-hole and solder paste stencilling of circuit boards

Professional Development

Senior International Mentor*Office of Dean of Students, Victoria College*

2018-2022

Courses:

- Identify assist refer
- Peer support relationship
- 1 on 1 communication
- Facilitating groups online
- Creating an inclusive environment
- Mentor leadership training

Events Director

Victoria University Students Administrative Council, Academic Commission

2018-2019

Courses:

- Developing alumni relations
- Giving an academic resume workshop

Lance Corporal (National Service)

Singapore Armed Forces

2016-2018

Courses:

- Class 4 driving course
- Leadership basic training
- Marksmanship course
- Mechanics and machining course
- Creating an include environment

Outreach

Volunteer

Singapore Science Center

2014-2019