

EDUCATION

Exp: 06/21

Masters in Applied Cybernetics, HD

3AI, School of Cybernetics, Australian National University

On leave

PhD student in Computational Neuroscience

Edward and Lily Safra Center for Brain Science, Hebrew University of Jerusalem

05/2019

B.S. Mathematics with minors in Economics and CS, magna cum laude

New York University Abu Dhabi (NYUAD)

Studied away at New York, Washington D.C., Florence & London

RESEARCH

02/2021 - Present

ANU School of Philosophy

Research on naturalised theory of mental content with Prof.Colin Klein. We are interested in identifying and defending the epistemic value of representation in connectionist model of the mind.

09/2019 - 02/2020

Hebrew University of Jerusalem

Research on infinite-width neural network correspondence to kernel process with Prof.Haim Sompolinsky. We were interested in generalization performance of neural network kernel processes trained on small data sets.

05/2019 - 08/2019

NYUAD Center for Cyber Security

Summer research project on cryptanalysis of post quantum encryption systems submitted to the NIST competition. I analysed an algebraic surface encryption system and suggested ways to strengthen the algorithms against quantum attacks.

09/2018 - 05/2019

NYUAD Mathematics

I automated the calculation of characteristic classes of topological manifolds such as Chern, Pontryagin, and Wu class of fiber bundles, their relations and the associated polynomial with Prof.Hisham Sati. *Paper in preparation.*

05/2018 - 08/2018

Technical University of Munich

Summer research project on deep Learning methods for Reynolds-averaged Fluid simulation for Airfoils with Prof.Nils Thuerey. I was involved in design of normalization procedure and custom loss function, Data generation, and Coding.

01/2018 - 06/2018

NYU Center for Data Science

We trained ML algorithm on applied ethics papers corpora for classification of moral reasoning employed in text with Prof.Elliott Ash and Prof.Daniel Chen. We used the model to analyse US Circuit Court judge rulings since 1891 and find a phase shift from deontological to consequentialist reasoning. Paper published in Computational Legal Studies.

05/2017 - 08/2017

Courant Institute of Mathematical Sciences

Summer research project where I formulated & implemented a mathematical model of stringed instrument and found the ideal mechanism for modelling timbre of stringed instruments such as Guitar and Sitar with Prof.Charles Peskin.

WORK

03/2021 - Current

Place Intelligence

Writing a report on urban design and analytics for disaster impact management with Place Intelligence. I am involved in writing how predictive frameworks can be used to forecast and control for the impacts of disasters such as bush fires.

10/2020 - 03/2021

Microsoft / DPIE

Worked on a joint Project between Microsoft and Department of Planning, Industry and Energy, NSW. We designed a ML model to sift through automatically captured camera trap data to aid environment research and conservation work. I worked on designing an interface for using the model off the shelf.

08/2020 - 11/2020

3A Institute

We analysed and provided recommendation to Quenbeyan smart city project. It involved analysing the decision making, governance, and engineering process and providing recommendations around managing safety and sustainability using a more than human approach.

08/2020 - 11/2020

3A Institute

We designed a prototype for a smart tap enabled with computer vision that can sense the object being presented and control for water volume to improve efficiency. The prototype was apart of a larger argument on how computer vision can expand the capabilities of tap and can help with things ranging from efficiency to quality monitoring.

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07/2017 - 08/2017

NYU Environmental Fluid Dynamics Lab

Worked on a project that collected and verified data from the Ilulissat Icefjord in Greenland with Prof. David Holland. We were out in the ocean at the vicinity of the fjord to collect boundary data to simulate the melting of the fjord.

01/2017 - 05/2017

Duco Experts

Worked as an intern at a series A startup in Washington D.C. Involved in web design and marketing.

05/2016 - 07/2017

CTED Ghana

Summer project where we researched market forces in rural Ghana with an aim to increase market access for farmers. I analysed various incomplete property data and extrapolated them to full set of data with aim to safeguard farmer's property rights.

Teaching

01/2018 - 06/2018

Held office hours for undergraduate courses in Calculus, Linear Algebra, & Probability.

07/2017 - 11/2017

Tutored IB diploma course in Mathematics and Further Mathematics.

Conferences & Events

01/2019	Workshop on Applied Topology, Kyoto, Japan
07/2018	Confrence on Numerical Ranges, Munich, Germany
11/2017	HacHarvard, Boston, USA

Awards

2019	Rhodes Scholarship National Finalist
2017	NYU Global Leadership Scholar
2015	National Topper in A level Further Mathematics, Nepal

Skills

Languages	Nepali, English, Hindi
Programming	Python (TensorFlow, PyTorch), Matlab, C++, \LaTeX