curriculum vitæ of
Haider Riaz Khan
PHYSICIST · SOFTWARE ENGINEER · PHILOSOPHER

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EDUCATION

Sep 2017 – Aug 2018	**M.A.** in Philosophy	UNIVERSITY OF WATERLOO

Thesis: The Phenomenological Origins of Property (Advised by John Turri)
Seminars: Self-Knowledge, Human & Computer Intelligence, and Foundations of Quantum Theory

Sep 2010 – Apr 2015	**B.Sc.** in Physics and Computer Science	MCGILL UNIVERSITY

Special Research Project: The Building of a Cellular Detector (Advised by Paul François)

PUBLICATIONS

CONFERENCE AND JOURNAL ARTICLES

1. **Khan, Haider Riaz**, & John Turri. "Phenomenological Origins of Psychological Ownership." *Review of General Psychology* 26, no. 4 (December 2022): 446–63.

2. Li, Nan, Yu Lei, **Haider R. Khan**, Jingshu Liu, and Yun Guo. "Applying Combinatorial Test Data Generation to Big Data Applications." In *Proceedings of the 31st IEEE/ACM International Conference on Automated Software Engineering (ASE '16), 637-47.* New York, NY: Association for Computing Machinery, August 2016.

ESSAYS

1. "The Forever War." *Commune*, Issue 5, Winter 2020.

AWARDS & HONORS

2018	Paul Seligman Memorial Scholarship	UNIVERSITY OF WATERLOO, $1200
2015	Dean's Multidisciplinary Undergraduate Research List	MCGILL
2014	NSERC-CREATE Neuroengineering Award	MCGILL, $5,625
2010	Alexander Rutherford Scholarship	WESTERN CANADA HIGH SCHOOL, $2,500

WORK

Dec 2022 - Pres	**Staff Software Engineer**	TERRACE (NYC, USA)

Building Terrace's liquidity platform in an idempotent and concurrent style, with TypeScript.

July 2021 - August 2022	**Senior Software Engineer**	AVENUE 8 (NYC, USA)

Implemented Avenue 8's observability infrastructure. Wrote automation, monitoring, and alerting scripts. Automated the management of AWS provided resources using Terraform. Improved network security.

August 2019 - July 2021	**Software Engineer**	LIFION BY ADP (NYC, USA)

Built Lifion's graph database framework using a microservices architecture, Node.js, and Gremlin.

Sep 2018 - Dec 2018	**Research Assistant**	PHILOSOPHICAL SCIENCE LAB, UNIVERSITY OF WATERLOO

Transalted English stimuli into Pashto and Urdu for the purposes of a cross-cultural study of the "ought implies can" principle. Provided feedback on research paper drafts to Prof. Turri.

Jan 2016 - Feb 2017	**Software Engineer**	MEDIDATA SOLUTIONS (NYC, USA)

Contributed to the development of a Java based combinatorial test data generator called BIT-TAG.

May 2014 - April 2015	**NSERC Neuroengineering Fellow**	RUTHAZER LAB, MONTREAL NEUROLOGICAL INSTITUTE

Wrote CANDLE-J; an open-source 3-D image denoising software designed as an ImageJ plugin. CANDLE-J is adept at processing deep in vivo 3D multiphoton microscopy images where the signal to noise ratio (SNR) is low. It is written in Python, Java, and multithreaded C.

Dec 2012 - May 2014	**Research Assistant** COOK LAB, DEPARTMENT OF PHYSIOLOGY, MCGILL

Developed MATLAB routines to measure the cross-correlation of microsaccades and microstimulations (in area MT of the visual cortex). Created a library of MATLAB functions to compute joint metrics of neural activity. The joint metrics are computed for both single unit and multi unit neuronal spikes.

TALKS & PRESENTATIONS

2016	comBinatorial bIg daTa Test dAta Generator (BIT-TAG)	ASE'16, SINGAPORE
2014	Neuroscience From Below	STUDENT SUMMER COLLOQUIUM, MCGILL

TEACHING EXPERIENCE

Winter 2018	**Teaching Assistant**	UNIVERSITY OF WATERLOO
	Biomedical Ethics (Prof. Andrew Stumpf)	
Fall 2017	**Teaching Assistant**	UNIVERSITY OF WATERLOO
	Professional and Business Ethics (Dr. Jim Jordan)	
Fall 2011	**SUS Peer Tutor**	MCGILL

Met with students routinely to go over physics and chemistry concepts; held exam review sessions.

TECHNICAL SKILLS

Programming Languages: TypeScript/JavaScript, Java, Python, C, Bash, MATLAB, SQL, Gremlin
Data Querying & Management: PostgreSQL, Amazon Neptune, GraphQL, Elasticsearch, Redis
Development & Automation: Git, Docker, Kubernetes, GitHub Actions, Terraform, GCC, javac

ACTIVITIES & INTERESTS

Sep 2013 - April 2014	**Radio Host** CKUT-FM (MONTREAL, QC)

Hosted Friday's "Off the Hour." The show covered a wide range of topics including environmental activism, indigenous affairs, and provincial legislation.