contact

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gkiar

languages

english native speaker,
basic ASL

programming

Python, R, Bash
MATLAB, C++, AWS,
Ruby, LaTeX, etc.

soft skills

leadership, teaching,
sci. comm., design,
problem solving

education

2017 – now **Ph.D. candidate** in Biomedical Engineering — McGill University, Montreal, QC
Thesis work supervised by Alan Evans and Tristan Glatard on a project entitled: Characterizing the Stability of Neuroimaging Analyses Through Perturbations in Experimental Design. All code and data have been made publicly available.

2014 – 2016 **M.S.E** in Biomedical Engineering — Johns Hopkins University, Baltimore, MD
Thesis work was supervised by Joshua T. Vogelstein on a project entitled: GREMLIN: Graph Estimation from MR images Leading to Inference in Neuroscience. All code and data have been made publicly available.

2010 – 2014 **B.Eng** in Biomedical and Electrical Engineering — Carleton University, Ottawa, ON
Capstone work was supervised by Leonard MacEachern on a project entitled: Electrical muscle stimulation with concurrent EMG feedback of the upper arm for applications in stroke rehabilitation.

2018 **Software and Data Carpentry Instructor Training** — Compute Canada, Toronto, ON
Running workshops in the context of an evidence-based instructional pedagogy.

2016 **Exploring the Human Connectome** — The Human Connectome Project, Boston, MA
Development and deployment of connectome estimation pipelines.

2015 **Presenting Data and Information** — Edward Tufte, Baltimore, MD
Cultivate skills in effective communication with scientific figures.

experience

Academic Experience

Current Positions & Activities

05/17 – now **McGill Centre for Integrative Neuroscience (MCIN)** — Montreal, QC
Software Developer & Researcher
Responsible for the exploration and integration of distributed software software services with high performance computing clouds and clusters, providing development, training, and support towards the use of tools and services within international collaborations, and developing methods for evaluating and describing analysis software in neuroimaging.

01/19 – now **Concordia Continuing Education** — Montreal, QC
Instructor & Curriculum Developer
Responsible for the training of working professionals in the basics of "Big Data Technology," including fundamental tools for software development such as Bash, Git, and Docker, as well as software for numerical analysis such as Python and R. Core contributor in the development of new courses within the "Big Data Solutions for Business" diploma program.

06/18 – now **Organization for Human Brian Mapping (OHBM)** Minneapolis, MN
Treasurer - Open Science Special Interest Group
Responsible for the procurement and management of finances for the special interest group. Includes creating budgets, interfacing with sponsors and vendors, as well as event organizers for the various activities run by the Open Science special interest group.

Previous Positions

09/14 – 05/17 **Center for Imaging Science, Johns Hopkins University** Baltimore, MD
Research Engineer
Development and maintenance of an open-source pipeline for structural connectome estimation in humans and implemented statistical algorithms for quality control of data derivatives. Publicly released data products to lower the barrier to entry for neuroscience research. Chiefly responsible for grant reporting and public presence at conferences and workshops.

06/13 – 09/13 **Dept. of Systems and Computer Engineering, Carleton University** Ottawa, ON
Research Assistant with Dr. Rafik Goubran
Developed wireless medical data publish-subscribe system for viewing patient vital signs remotely.

06/12 – 09/12 **Dept. of Systems and Computer Engineering, Carleton University** Ottawa, ON
Research Assistant with Dr. Andy Adler
Utilized neural networks for inverse modeling of real and simulated biological systems.

06/11 – 09/11 **Dept. of Biology, Carleton University** Ottawa, ON
Research Assistant with Dr. Jeffrey Dawson
Developed robotics platform for studying insect locomotion patterns and behaviour.

01/09 – 09/09 **CRC, Ottawa Hospital Research Institute** Ottawa, ON
Research Assistant with Dr. Jim Dimitroulakos
Tested combination therapies of Lovastatin and Cisplatin drugs on colon and breast cancer strains.

Teaching Experience

05/17 – now **McGill University, OHBM, Brain Intensive, others** Montreal, QC
Neuroinformatics Instructor
Regularly plan and teach a series of workshop introducing neuroscientists and trainees to methods in neuroinformatics. Developed and publicly released all course content on GitHub under the "Brainhack101" moniker and several videos on YouTube under the "BrainIntensive" profile.

09/14 – 05/17 **Dept. of Biomedical Engineering, Johns Hopkins University** Baltimore, MD
Teaching Assistant
Responsible for instruction, evaluation, and content design for: Freshman Modeling and Design for BME (2014, 2015), Systems and Controls (2015), Statistical Connectomics (2015), The Art of Data Science (2016), NeuroData Design (2016). Spent more than 500 hours working with students.

01/{15, 16, 17} **Dept. of Computer Science, Johns Hopkins University** Baltimore, MD
Instructor
Responsible for instruction, evaluation, and content design for intensive 3-week project-based course on an introduction to connectomics research across multiple scales and experimental modalities. Spent more than 300 hours planning, designing course content, and working with students.

09/12 – 05/14 **Student Academic Success Center, Carleton University** Ottawa, ON
Facilitator for Peer-Assisted Study Sessions
Instructed and demonstrated mastery of principles in electromagnetism and power engineering. Spent more than 300 hours working with students.

08/13 – 05/14 **Student Academic Success Center, Carleton University** Ottawa, ON
Facilitator Team Leader
Provided training, mentoring, and coaching to student instructors in a variety of disciplines. Spent more than 100 hours training and working with facilitators.

01/13 – 06/14 **Dept. of Systems and Computer Engineering, Carleton University** Ottawa, ON
Teaching Assistant
Instructed introductory level C++ programming. Led lab sessions and instructional workshops. Spent more than 300 hours working with students.

memberships & extracurriculars

2018 – now **Ludmer Centre Seeds of Change Campaign** Montreal, QC
Trainee Ambassador

2017 – now **OHBM Open Science SIG** Minneapolis, MN
Treasurer, Educational Committee Liaison

2017 – now **Canadian Open Neuroscience Platform Training Committee** Montreal, QC
Trainee Representative

2017 – now **Various Neuroinformatics-based Hackathons and Courses** Montreal, QC
Hackathon Chair, Organizer, & Instructor

2017 – 2018 **OHBM Open Science SIG** Minneapolis, MN
Hackathon Chair

2017 – 2018 **Healthy Brains for Healthy Lives Trainee Committee** Montreal, QC
President (Neuroinformatics)

2014 – 2017 **NeuroData** Baltimore, MD
Neurocartographer

2015 – 2017 **College Prep Program** Baltimore, MD
College Mentor, SAT Coach, & Essay Reviewer

2014 – 2016 **Thread** Baltimore, MD
Grandparent (i.e. supervisor) & Family Member (i.e. mentor)

2013 – 2014 **Carleton University Biomedical Engineering Society** Ottawa, ON
President

12/12, 12/13 **Operation Red Nose Ottawa** Ottawa, ON
Navigator and Driver

2010 – 2011 **Carleton University Student Emergency Response Team** Ottawa, ON
Emergency First Responder

awards

2019 **Young Investigator Award** Sage Bionetworks, Seattle, WA

2019 **Instructor Training Fellowship** Repronim, Worcester, MA

2019 **Globalink Research Award** Mitacs, Montreal, QC

2018 **Michael Smith Foreign Study Supplement** NSERC, Ottawa, ON

2018 **Alexander Graham Bell Canada Graduate Scholarship (CGS D)** NSERC, Ottawa, ON

2017	**Healthy Brains for Healthy Lives Doctoral Fellowship**	McGill University, Montreal, QC
2017	**CRN Coding Sprint Project Award**	Stanford University, Palo Alto, CA
2017	**OHBM BrainHack Travel Award**	OHBM, Minneapolis, MN
2014 – 2016	**Full-tuition Master's Degree Fellowship**	Johns Hopkins University, Baltimore, MD
2014	**Graduated with Distinction**	Carleton University, Ottawa, ON
2014	**Greatest Social Impact Paper**	Professional Engineering Ontario (PEO), Ottawa, ON
2014	**SEED Fund**	Carleton University Engineering Alumni, Ottawa, ON
2014	**IEEE Papers Showcase Local Winner**	IEEE Ottawa-Carleton Chapter, Ottawa, ON
2014	**Carleton Electronics Project Competition Champion**	Carleton University, Ottawa, ON
2013	**Engineering '65 and '66 Scholarship**	Carleton University, Ottawa, ON
2012 – 2014	**Dean's Honour List**	Carleton University, Ottawa, ON
2012	**Clarence C. Gibson Scholarship**	Carleton University, Ottawa, ON

interests

professional: reproducibility, accessibility, high performance computing, neuroscience, pipeline engineering, big data, data analysis, software design, machine learning, statistics. **personal:** guitar, hockey, soccer, design, hiking, paddling.

reviewed for

1. Frontiers in Neuroinformatics
2. Gigascience

publications

published code

For an up-to-date list of published code projects, please visit my GitHub profile at https://github.com/gkiar.