RAVNOOR SINGH GILL

POSTDOCTORAL RESEARCHER

ABOUT

MONTRÉAL QC

RAVNOORGILL.COM

RAVNOOR

IN/RAVNOOR

CODE

://DEEPFCD
://DEEPMASK
://NOELTEXTURESPY

NEUROIMAGING ANALYTICS

PROFICIENT
ANTS{PY,PYNET}
CIVET
NILEARN

INTERMEDIATE
FSL
AFNI

COMPETENT
FREESURFER
SPM

STATS/DS/ML

PROFICIENT
PYTHON
GIT
PYTORCH
SCIKIT-LEARN
NUMPY
SCIPY
PANDAS
MATLAB

INTERMEDIATE
KERAS
R

EXPERIENCE

HelpWear Inc
01/2021 - 04/2021

MACHINE LEARNING INTERN

Algorithm development for arrhythmia detection in a wearable single-lead ECG monitoring solution

- Developed algorithms for supervised beat classification and unsupervised anomaly detection based on public and private datasets
- Integrated and curated heterogeneous sources of public and private cardiac electrophysiology datasets
- Modernized data storage by improving storage, archival and performance efficiencies by migrating to HDF5 from plaintext format, while also mitigating problems with larger than memory datasets and enabling efficient metadata access and query

McGill University
09/2015 - 08/2022

RESEARCH ASSISTANT

Multi-contrast MR imaging analysis using machine learning for clinical decision support in MRI-negative epilepsy

- Implemented an end-to-end deep learning pipeline for lesion detection in focal cortical dysplasia
- Implemented multi-task hippocampal subfield segmentation and focus lateralization in temporal lobe epilepsy

University of Western Ontario
09/2012 - 04/2015

RESEARCH ASSISTANT

Characterized disruptions of functional connectivity in experimental models of epilepsy using EEG and rsfMRI

EDUCATION

McGill University
09/2015 - 04/2022

Montreal, Quebec

Ph.D. Neuroscience
GPA 3.77/4.00
Thesis: Quantitative imaging of cortical malformations in MRI-negative epilepsy

University of Western Ontario
09/2012 - 01/2015

London, Ontario

M.Sc. Neuroscience
GPA 3.93/4.00
Thesis: Resting-state functional network disruptions in a rodent model of mesial temporal lobe epilepsy

Panjab University
07/2008 - 05/2012

Chandigarh, India

B.Eng. Biotechnology
GPA 3.82/4.00

DEVOPS

INTERMEDIATE
CONTAINERIZATION (DOCKER)
VIRTUALIZATION (KVM)
LINUX/SHELL (CLI)
AUTOMATION (ANSIBLE)
CI/CD

CLOUD

INTERMEDIATE
GOOGLE GCP
AMAZON AWS
DIGITAL OCEAN
LINODE

WEB/GRAPHIC DESIGN

INTERMEDIATE
HTML
CSS
PLOTLY DASH
FLASK
ADOBE ILLUSTRATOR
ADOBE PHOTOSHOP
OMNIGRAFFLE

LANGUAGES

ENGLISH *(FLUENT)*
PUNJABI *(NATIVE SPEAKER)*
HINDI *(NATIVE SPEAKER)*

INTERESTS

HOME LAB
DIY REPAIRS
DIY ELECTRONICS
SQUASH
BASKETBALL

SELECTED AWARDS

Fonds de Recherche du Québec - Santé
10/2017 - 12/2020
Government of Québec
PhD Scholarship

Young Investigator Award
12/2020
American Epilepsy Society Meeting, Virtual
Merit/Travel Award

Grass Foundation Young Investigator Award
12/2019
American Epilepsy Society Meeting, Baltimore, MD, USA
Merit/Travel Award

MICCAI Travel Award
10/2019
MICCAI Meeting, Shenzhen, China
Merit/Travel Award

IPN STAR Award
02/2019
Integrated Program in Neuroscience, McGill University
Merit Award

Merit Abstract Award
06/2018
Organization for Human Brain Mapping Meeting, Singapore
Merit/Travel Award

Western Graduate Research Scholarship
09/2012 - 08/2014
University of Western Ontario
MSc Scholarship

SELECTED PUBLICATIONS

Multimodal mapping of regional brain vulnerability to focal cortical dysplasia
Brain - 01/2023

H. M. Lee, S.-J. Hong, R. Gill, B. Caldairou, I. Wang, J.-g. Zhang, F. Deleo, and others

Decomposing MRI phenotypic heterogeneity in epilepsy: A step towards personalized classification
Brain - 10/2022

H. M. Lee, F. Fadaie, R. Gill, B. Caldairou, V. Sziklas, J. Crane, S.-J. Hong, and others

Multicenter validation of a deep learning detection algorithm for focal cortical dysplasia
Neurology - 10/2021

R. S. Gill, H.-M. Lee, B. Caldairou, S.-J. Hong, C. Barba, F. Deleo, L. D'Incerti, and others

Unsupervised machine learning reveals lesional variability in focal cortical dysplasia at mesoscopic scale
NeuroImage - 01/2020

H. M. Lee, S.-J. Hong, R. Gill, B. Caldairou, I. Wang, J.-g. Zhang, F. Deleo, and others

Recommendations for the use of structural magnetic resonance imaging in the care of patients with epilepsy: A consensus report from the international league against epilepsy neuroimaging task force
Epilepsia - 01/2020

A. Bernasconi, F. Cendes, W. H. Theodore, R. S. Gill, M. J. Koepp, R. E. Hogan, G. D. Jackson, and others

Uncertainty-informed detection of epileptogenic brain malformations using bayesian neural networks
MICCAI - 01/2019

R. S. Gill, B. Caldairou, N. Bernasconi, and A. Bernasconi

Resting state functional network disruptions in a kainic acid model of temporal lobe epilepsy
NeuroImage: Clinical - 01/2017

R. S. Gill, S. M. Mirsattari, and L. S. Leung

SERVICE

Reviewer

Neurology, Annals of Neurology, Epilepsia, Brain, and NeuroImage

Mentorship

Mentored and supervised undergraduate and graduate students

Volunteer

Data for Good - Montreal Chapter

REFERENCES

Available on request