SRUTI MALLIK

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SUMMARY

Detail-oriented and self-motivated doctoral student with 3+ years of academic research experience in computational neuroscience. Eager to engage in industrial research and development opportunities post-graduation in the domain of Applied Machine Learning, Data Analytics and/or Computational Biology.

EDUCATION

Washington University in St. Louis, Missouri, USA

Ph. D. in Electrical & Systems Engineering (GPA: 3.93) *Aug 2016 – May 2021*

M.S. in Electrical & Systems Engineering (GPA: 3.89) *Aug 2016 – Dec 2018*

Jadavpur University, West Bengal, India

Bachelor of Electrical Engineering (GPA: 8.95) *Aug 2011 – Jun 2015*

SKILLS

Programming Languages Python, MATLAB, R, C/CPP, SQL, HTML, CSS, LaTeX

Deep Learning Frameworks TensorFlow, Keras

RESEARCH

- **Normative modeling of neural circuit dynamics for sensory detection** *Sep 2017 – Dec 2018*
  Conceptualized and coded *(MATLAB and Python)* a predictive model that mimics olfactory detection.
- **Neural and behavioral adaptation over multiple timescales** *Jan 2018 - present*
  Conceptualized and coded *(MATLAB)* a computational model that demonstrates neural and behavioral adaptation for analysis of fluorescence imaging data from *C. elegans.*
- **Top-down modeling of distributed neural dynamics for motion control** *May 2020 - present*
  Currently developing a model of neural computation *(Python)* using the reinforcement learning paradigm that focuses on planning and execution of an optimal strategy for spatial navigation.

PROJECTS

- **Classification of a dataset of floral images** (hosted by Kaggle) *May 2020 – Aug 2020*
  Developed a model using a custom ResNet along with pretrained DenseNet and Xception networks that classified 100 unique classes of floral images with an accuracy of ~93%. It was trained using 16.5k+ training samples.

PUBLICATIONS

- **Neural Circuit Dynamics for Sensory Detection** *Apr 2020*
  Sruti Mallik et. al. [Journal of Neuroscience]
- **Optimal tracking as a framework for normative synthesis of sensory networks** *Sep 2020*
  Sruti Mallik, ShiNung Ching [Bernstein Conference 2020]

RELEVANT COURSES

Intro. to AI, Intro. to ML, Optimization, Probability and Stochastic processes, Deep learning (Coursera)