SRUTI MALLIK

srutimallik92@gmail.com · (+1) 314-745-9538 · 720 Eastgate Ave Apt 3N, St Louis, MO 63130

🌐 https://smallik92.github.io   https://github.com/smallik92   in https://www.linkedin.com/in/sruti-mallik-32719a90

SUMMARY

Detail oriented and motivated graduate student with over 4 years of experience in machine learning, statistical modeling, and optimization. Excited to transition into professional roles in the domain of machine/ deep learning and/or computational biology.

RESEARCH EXPERIENCE

DOCTORAL RESEARCH

- Conceptualized from scratch and coded a generative model of olfactory detection (*Python/MATLAB*) which explained electrophysiological data recorded from locust olfactory circuits. **(Code|Publication)**
  SEP 2017 – DEC 2018

- Conceptualized from scratch and coded a generative model of neural and behavioral adaptation (*MATLAB*) which explained neural imaging and behavioral data from *C. elegans.*
  JAN 2018 - PRESENT

- Formulating a model (*Python*) that analyzes how algorithms from the reinforcement learning paradigm are implemented in the brain.
  MAY 2020 – PRESENT

INDEPENDENT PROJECTS

- Built a Computer Vision model that classified a dataset of 16.5k+ training images comprising of 100+ classes with an accuracy of ~93% using a custom ResNet along with pretrained DenseNet and Xception networks. **(Code)**
  MAY 2020 – AUG 2020

TECHNICAL SKILLS

Languages	Python, MATLAB, R, C++, HTML, CSS
Libraries	Scikit-learn, Numpy, OpenCV, NLTK
Deep Learning Frameworks	TensorFlow, Keras
Data Visualization	Matplotlib, Seaborn, ggplot2
Database Management	SQL, pandas
Cloud Services	AWS

EDUCATION

- **Washington University in St. Louis, St. Louis, MO, USA**
  Ph.D. in Electrical & Systems Engg., 2016-2021, GPA: 3.93/4
  M.S. in Electrical & Systems Engg., 2016-2018, GPA: 3.89/4
- **Jadavpur University, Kolkata, WB, India**
  B.E. in Electrical Engg., 2011-2015, GPA: 8.95/10

ML EXPERIENCE

Supervised: Generalized linear model, Naïve Bayes, SVM, Decision Trees and Ensemble Methods
Unsupervised: k-Means, Mixture Models, t-SNE, Anomaly Detection
Computer Vision: ResNet, Object Detection (YOLO), U-Net
Sequence Models: RNNs, GRUs, LSTMs, GloVe

COURSES

Intro. to AI, Intro. to ML, Optimization, Biological Neural Computation, Probability & Stochastic Processes, Deep Learning (Coursera)

AWARDS

Ministry of Human Resource Development, Govt. of India college scholarship (2011-2015)

PUBLICATIONS

- **Multiple timescale normative model of neural and behavioral adaptation**, Sruti Mallik et al. (in preparation)
- **Neural Circuit Dynamics for Sensory Detection,** Sruti Mallik et al.; Journal of Neuroscience (2020)

LEADERSHIP

- Mentored one graduate and one undergraduate student in summer research projects (Summer 2020)

- Teaching Assistant for undergraduate course (70+ students, Fall 2019) and graduate course (25+ students, Spring 2018).