Jayanth Koushik

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PhD Candidate
Carnegie Mellon University
Neuroscience Institute & Machine Learning Department

Education

PhD in Neural Computation and Machine Learning
Jul 2017 – Sep 2023 (expected)
Carnegie Mellon University, Pittsburgh, PA
Advisors: Michael J. Tarr, Aarti Singh
Awards:
◇ BrainHub Presidential Fellowship (2018)

MS in Computational Data Science
Sep 2015 – May 2017
Carnegie Mellon University, Pittsburgh, PA
Advisor: Aarti Singh

BE (Hons.) in Computer Science
Aug 2010 – Jul 2014
Birla Institute of Technology and Science, Pilani, India
Awards:
◇ Merit Scholarship (Fall 2010, Spring 2011)
◇ OP Jindal Engineering and Management Scholarship (2010, 2012)

Work Experience

Teaching Assistant
"Fun"-damentals of MRI and Neuroimaging Analysis (Spring 2022)
Carnegie Mellon University

Teaching Assistant
Data Analysis class in Machine Learning (Fall 2018)
Carnegie Mellon University

Software Engineer
Jul 2014 – Jun 2015
Directi, Bangalore, India

Interim Engineering Intern
Jan 2014 – Jun 2014
Qualcomm, Bangalore, India

Skills

○ Python ○ PyTorch ○ Matplotlib, Seaborn ○ NumPy, SciPy, Scikit-Learn ○ HTML, CSS, JavaScript

Presentations

Influence Functions for Black-Box Optimization
J. Koushik, A. Singh, M. J. Tarr.
Talk at *2nd Annual Conference on Machine Learning and Engineering* (MS&T 2019).

Influence Functions for Adaptive Stimulus Selection
J. Koushik, A. Marcus, A. Singh, M. J. Tarr.
Poster at *18th Annual Meeting of the Vision Sciences Society* (VSS 2018).

Publications and Preprints

Deep learning powered real-time identification of insects using citizen science data
S. Chiranjeevi, M. Sadaati, Z. K. Deng, J. Koushik, T. Z. Jubery, D. Mueller, M. E. O'Neal, N. Merchant, A. Singh, A. K. Singh, S. Sarkar, A. Singh, B. Ganapathysubramanian.
Submitted to *Science Advances* (June 2023).

AlphaNet: Improving Long-Tail Classification By Combining Classifiers
N. Chang*, J. Koushik*, A. Singh, M. Hebert, Y.-X. Wang, M. J. Tarr.
arXiv:2008.07073 (2023).

Deep Black-Box Optimization with Influence Functions
J. Koushik, Michael J. Tarr, Aarti Singh.
Preprint (2020).

Eve: A Gradient Based Optimization Method with Locally and Globally Adaptive Learning Rates
H. Hayashi*, J. Koushik*, G. Neubig.
arXiv:1611.01505 (2018).

A Brain Phenotype for Stressor-Evoked Blood Pressure Reactivity
P. J. Gianaros, L. K. Sheu, F. Uyar, J. Koushik, J. R. Jennings, T. D. Wager, A. Singh, T. D. Verstynen.
In *Journal of the American Heart Association* (2017).

Hypothesis Transfer Learning via Transformation Functions
S. S. Du, J. Koushik, A. Singh, B. Póczos.
In *31st Conference on Neural Information Processing Systems* (NIPS 2017).

Deep Multimodal Fusion for Persuasiveness Prediction
B. Nojavanasghari*, D. Gopinath*, J. Koushik*, T. Baltrušaitis, L.-P. Morency.
In *18th International Conference on Multimodal Interaction* (ICMI 2016).

* Equal contribution.