Praveen Venkatesh

Ph.D. candidate, Carnegie Mellon University

EDUCATION

Program	Institution	CGPA	Years
Ph.D., Electrical & Computer Engineering	Carnegie Mellon University Pittsburgh, PA	3.88	Fall 2014 – 2019 *(expected)*
B.Tech (Honors), Electrical Engineering (minor in Physics)	Indian Institute of Technology Madras Chennai, India	9.11	2010 – 2014

PUBLICATIONS

Journal papers

- A. K. Robinson, P. Venkatesh, M. J. Boring, M. J. Tarr, P. Grover, M. Behrmann, "Very high density EEG elucidates spatiotemporal aspects of early visual processing", (submitted)
- Pulkit Grover and Praveen Venkatesh, "An information-theoretic view of EEG sensing", *Proceedings of the IEEE*, vol. 105, no. 2, pp. 367–384, February 2017, doi

Conference papers

- P. Venkatesh and P. Grover, "Lower bounds on the Minimax Risk for the Source Localization Problem", *International Symposium on Information Theory (ISIT)*, June 2017, pp. 3080–3084, doi
- Praveen Venkatesh and Pulkit Grover, "Is the direction of greater Granger causal influence the same as the direction of information flow?", *Allerton*, 2015, pp. 672–679, doi
- Pulkit Grover, Jeffrey A. Weldon, Shawn K. Kelly, Praveen Venkatesh, Haewon Jeong, "An information theoretic technique for harnessing attenuation of high spatial frequencies to design ultra-high-density EEG", *Allerton*, 2015, pp. 901–908, doi

Conference abstracts

- Praveen Venkatesh, Ashwati Krishnan, Jeffrey Weldon, Shawn Kelly, Pulkit Grover, "Ultra-resolution Subdermal EEG: Long-term Minimally-invasive Brain Monitoring", *SfN Neuroscience 2017 (accepted)*, November 2017
- Praveen Venkatesh and Pulkit Grover, "High Density EEG: Information-theoretic Limits and Algorithms", *International Symposium on Information Theory (ISIT), Recent Results*, June 2017
- Alireza Chamanzar, Shilpa George, Praveen Venkatesh, Wanqiao Ding, Pulkit Grover, "Systematic and automated algorithms for detecting cortical spreading depolarizations using EEG and ECoG to improve TBI diagnosis and treatment", *12th World Conference on Brain Injury*, March 2017
- P. Venkatesh, W. Ding, P. Grover, "Data processing for reliable detection of cortical spreading depolarizations using high-density EEG", *American Epilepsy Society annual meeting*, December 2016
- Praveen Venkatesh and Pulkit Grover, "Is the direction of greater Granger causal influence the same as the direction of information flow?", *SfN Neuroscience 2015*, October 2015

AWARDS

- A recipient of the Carnegie Institute of Technology Dean's Fellowship [2014-15]
- A recipient of the Henry L. Hillman Presidential Fellowship [2015-16]
- A recipient of the Dowd Fellowship from the College of Engineering at Carnegie Mellon university [2016-17]
- A recipient of the CMLH Fellowship in Digital Health from the Center for Machine Learning and Health at Carnegie Mellon University [2017-18]

TEACHING

At Carnegie Mellon University

- Teaching Assistant for *18-898: Introduction to Data Science with Applications to Clinical Neural Data* [Spring, 2017]
  - Helped design the course curriculum and homework assignments
  - Taught several lectures on statistics and source localization
  - Worked closely with students on designing and implementing course projects in collaboration with clinicians
- Teaching Assistant for *18-290: Signals and Systems* [Spring, 2015]

At the Indian Institute of Technology, Madras

- Teaching Assistant for *EE4371: Introduction to Data Structures and Algorithms* [Spring, 2014]

RELEVANT COURSEWORK (CMU)

- Neural Data Analysis
- Information Flows: Communication, Computational and Neuronal
- Estimation, Detection and Identification
- Intermediate Statistics
- Compressive Sensing and Sparse Representations
- Information Theory
- Error Control Coding
- Convex Optimization
- Information Processing and Learning