Ramanujan Srinath

Center for the Neural Basis of Cognition, Department of Neuroscience
University of Pittsburgh, 4400 Fifth Avenue, Suite 115, Pittsburgh, PA 15213
ramanujan@pitt.edu (410) 733-5258

Current position

Post-doctoral Fellow, CNBC, University of Pittsburgh. Mar 20 -
- Lab of Dr. Marlene R. Cohen
- Representation of multiple parameters in visual cortex
- Neural correlates of flexible learned associations

Experience

Post-doctoral Fellow, Mind/Brain Institute, Johns Hopkins University. Sept 19 - Mar 20
- Labs of Drs. Kristina J. Nielsen and Charles E. Connor
- Rapid emergence of 3D shape based on color/luminance segregation
- Analysis of 3D shape representation emergence in deep convolutional networks

Project Assistant, Indian Institute of Science, Aug 12 - Aug 13
- Lab of Dr. Supratim Ray, Center for Neuroscience, IISc
- Spatial Properties of Correlations in the Amplitude of the Local Field Potential in V1
- Modeling the spatial reach of ECoG electrode based on the power law distribution of LFP

Software Engineer, Philips Healthcare, Aug 11 - Sept 12
- Log analysis algorithm design, implementation, device-side product
- Lead developer: Product authorization, UI modules
- Spot Awards: CAT 4.5 Delivery (December 2011), Analysis Engine Development, UI Mockups

Internships

Project Intern, Honeywell Technology Solutions Lab, Jan 11 - Jul 11
- Rapid Eye DVR Adapter testing rig implementation

Industrial Trainee, Bharat Electronics Ltd., Jun 10 - Jul 10
- Designed the test bench for MKXI SSR module for ROHINI RADAR

Intern, Manipal Dot Net Ltd., Sept 09 - Apr 10
- Programmer for Freescale Tower with MCU CN128

Industrial Trainee, Tata Communications Ltd., Jun 09 - Jul 09
- Investigation of multi-service provisioning platform of metro access networks

Education

PhD, Johns Hopkins University, 2013-19
- Department of Neuroscience, School of Medicine
- Lab: Drs. Kristina J. Nielsen and Charles E. Connor
- Thesis: Solid Shape Representation in Area V4

Bachelor of Engineering, Manipal Institute of Technology, 2007-11
- Major: Electronics and Communication, CGPA 9.10/10

12th Grade, Delhi Public School, Mathura Road, Delhi, 2007
- Majors: Physics, Chemistry, Math, English, Computer Science (C/C++), 86.2% (GPA 4.0)

10th Grade, Cambridge School, Noida, 2005
- Science, Math, Soc. Science, English, Sanskrit, 86.2% (GPA 4.0)

Publications

Srinath, Emonds, Lempel, Dunn-Weiss, Wang, Connor, Nielsen. (2020). Early Emergence of Solid Shape Coding in Natural and Deep Network Vision. Current Biology *(in press)*
Srinath and Ray (2014). Effect of Amplitude Correlations on Coherence in the Local Field Potential. Journal of Neurophysiology jn.00851.2013.

(in preparation)
Srinath, Ruff, Cohen. Attention enhances communication fidelity between visual areas.
Srinath*, Wang*, Chen, Connor. Rapid emergence of 3D shape based on color/luminance segregation in artificial and biological vision.
Srinath*, Dunn-Weiss* , Daniels, Nielsen. Considerations for functional imaging in ferrets using chronic two-photon microscopy.

Ongoing academic projects

Deep convolution networks
- Coding of shape characteristics in networks with learned parts-based representations

Neuroscience
- Dynamics and laminar processing of solid shape representation in V4
- Effect of attention on communication subspaces between MT and SC
- Flexible human/primate behaviour as learned associations are changed on short timescales
- Neural substrates of shifts in learned associations

Co-curricular projects

Scholarship: Manipal University Merit Fellowship (100% tuition waiver), 2007-11
Scholarship: Erose Educational Infotech Merit Scholarship, 2002-06
Paper: Dupont India Challenge - 2005, Genetically Modified Foods: Hope for the Hungry or a Recipe for Disaster, Gold Certificate
Seminar: Geodesic EEG Sensors and Brain-Computer interfacing, 2010
Convener: OpenMic, MIT, 2010-11
Officer: Campus Placement Committee Coordinator, 2011
Conference: Six Model United Nation conferences across India (Deputy Secretary General and President, ECOSOC, Manipal MUN-2008)
Award: Scholar badge for excellence in academics, 1997-2007
Academic Consistency Award, 2007

Extra-curricular projects

Theatre:
- Actor, Mousetrap, JHU Barnstromers Fall Mainstage, 2015
- Lead-actor, Is he dead?, JHU Barnstromers Fall Mainstage, 2014
- Lead-actor, Noises off, JHU Barnstromers Fall Mainstage, 2013
- Lead-actor, Trouble in the Works, Comikaze, 2010
- Lead-actor, The Foreigner, 2009
- Miscellaneous acting and production assignments

Indian National Cadet Corp (NCC) A-certificate
Karate: Brown belt (4th Kyu), Solo-ryu Karate Association
Violin: Carnatic violin training
Football: High-school football (soccer) team

Computer skills

Proficient: Java, C/C++/C# (.NET3.5 - 4), LATEX, Matlab, Python and data vis techniques
Learning: Blender, Swift (ARKit, SpriteKit, CoreML), TensorFlow