Biographical Sketch
VISHAL MONGA

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i. PROFESSIONAL PREPARATION

Indian Institute of Technology, Guwahati	Electronics & Communications Engineering	B.Tech.	2001
The University of Texas at Austin	Electrical & Computer Engineering	M.S.	2003
The University of Texas at Austin	Electrical & Computer Engineering	Ph.D.	2005

ii. APPOINTMENTS

07/2020 –	Professor of Electrical Engineering, Pennsylvania State University
07/2015– 06/2020	Associate Professor of Electrical Engineering, Pennsylvania State University
08/2009– 06/2015	Assistant Professor of Electrical Engineering, Pennsylvania State University
06/2011–08/2011	Summer Faculty Fellow, Air Force Research Laboratory, Dayton, OH
01/2007–07/2009	Member of Research Staff, Xerox PARC East, Webster, NY
10/2005–12/2006	Member of Research Staff, Xerox PARC, CA
06/2005–09/2005	Visiting Researcher, Microsoft Research, Redmond, WA
05/2003–08/2003	Research Intern, Xerox Research Center Webster (also applies to summer 2004)
08/2001–05/2003	Graduate Research and Teaching Assistant, The University of Texas at Austin

iii. SELECTED PUBLICATIONS

1. **V. Monga**, Y. Li and Y. Eldar, "Algorithm Unrolling: Interpretable, Efficient Deep Learning for Signal and Image Processing", *IEEE Signal Processing Magazine*, volume 38, issue 2, March 2021.

2. I. Gerg and **V. Monga**, "Structural Prior Driven Regularized Deep Learning for SONAR Image Classification", *IEEE Transactions on Geosciences and Remote Sensing*, volume 60, issue 1, Jan 2022.

3. T. Guo, X. Li, V. Cherukuri, and **V. Monga**, "Dense Scene Information Estimation Dehazing Network", in Proc. *IEEE Conf. on Computer Vision and Pattern Recognition Workshops*, Long Beach, CA, US, 2019 (**Winner of the NTIRE-CVPR International Image Restoration Challenge.**).

4. K. A. Alhujaili, **V. Monga** and M. Rangaswamy, "Transmit MIMO Radar Beampattern Design Via Optimization on the Complex Circle Manifold", in *IEEE Transactions on Signal Processing*, vol. 67, no. 13, pp. 3561-3575, July, 2019.

5. J. McKay, **V. Monga** and R. G. Raj, "Robust SONAR ATR Through Bayesian Pose Corrected Sparse Classification", *IEEE Transactions on Geosciences and Remote Sensing*, volume 55, issue 10, pages 5563-5576, October 2017.

6. J. McKay, Anne Gelb, **V. Monga** and R. G. Raj, "Using frame theoretic convolutional gridding for robust synthetic aperture SONAR imaging", *IEEE OCEANS Conference*, Anchorage Alaska, September 2017. (**Finalist for the student paper competition.**)

7. J. McKay, Isaac Gerg, **V. Monga** and R. G. Raj, "What's mine is yours: Pretrained CNNs for limited training SONAR ATR", *IEEE OCEANS Conference*, Anchorage Alaska, September 2017.

8. O. Aldayel, **V. Monga** and M. Rangaswamy, "Successive QCQP Refinement for MIMO Radar Waveform Design Under Practical Constraints", *IEEE Transactions on Signal Processing*, volume 64, issue 14, pages 3760-3773, July 2016.

9. B. Kang, **V. Monga** and M. Rangaswamy, "Rank constrained ML estimation of structured covariance matrices", *IEEE Trans. on Aerospace and Electr. Syst.*, volume 50, issue 1, pp. 501-516, Jan 2014.

10. P. Vemulapalli, **V. Monga** and S. Brennan, "Robust Extrema Features for Time-Series Data Analysis", *IEEE Transactions on Pattern Analysis and Machine Intelligence*, volume 35, issue 6, pages 1464-1479, June 2013.

iv. SYNERGISTIC ACTIVITIES & AWARDS

- US National Science Foundation CAREER Award, 2015: http://www.ee.psu.edu/NewsArticles/mongaNews.aspx
- Associate Editor, IEEE Transactions on Image Processing, 2009-2013 and May 2015-May 2019, Senior Area Editor, IEEE Signal Processing Letters, August 2019-present
- Technical Program Committee (TPC), Area Chair and Technical Review Committee (TRC) IEEE Radar Conference – TPC and Special Session Chair 2013-2014, IEEE Int. Conf. On Image Processing – TPC and Area Chair 2011-2013; IEEE Asilomar Conference on Signals, Systems and Computers – TPC and Area Chair 2011, Special Session Chair 2012; IEEE International Conference On Image Processing – TRC since 2006; IEEE Int. Conf. on Acoustics, Speech and Signal Processing – TRC since 2007, IEEE Workshop on Information Forsensics and Security – TPC 2012, IEEE International Conference on Multimedia and Expo – TPC 2012-2013.
- 2014 IEEE Radar Conference Co-Author on the Best Student Paper Award Winning Paper (authored by B. Kang), IEEE Mikio Takagi Prize 2012, co-author on the best student paper award winning article, IEEE International Geosciences and Remote Sensing Symposium (IGARSS), Munich, Germany. Top 10% paper award at IEEE International Multimedia Signal Processing Workshop 2009, 2011.
- American Society for Engineering Education (ASEE) SMART Scholarship Program Panel
- **Current and/or Past Research Support** from NSF, NIH, ONR, AFOSR, ARO. Industrial funding obtained from Xerox, Nokia, PPG and Lockheed Martin.

v. COLLABORATORS

Recent Research Collaborators: R. Bala (Xerox PARC), R. G. Raj (US Naval Research Laboratory), M. Rangaswamy (US Air Force Research Laboratory), T. Tran (Johns Hopkins University).

vi. STUDENT AND POSTDOC SUPERVISION

Chair of PhD Thesis committee at Penn State: Isaac Gerg, Mingzhao Yu, Amir-Saeed Yazdani, Kareem Metwalay, Trung Hoang, Haichuan Zhang, Junho Kweon.
Students graduated: Mallory Peterson (PhD), Yung-Chen Sun (MS), Xuelu Li (PhD), Venkateswararao Cherukuri (PhD), Khaled Alhujaili (PhD), John McKay (PhD), Tiantong Guo (PhD), Yuelong Li (PhD), Mohammad Tofighi (PhD), Vu Huu Tiep (PhD), Hojjat Seyed Mousavi (PhD), Omar Aldayel (PhD), Bosung Kang (PhD), Umamahesh Srinivas (PhD), Xuan Mo (PhD), Mu Li (PhD), Pramod Vemulapalli (MS), James Gillespie (BS) – 15 PhD, 2 MS and 1 BS honors thesis.
Number of graduate students currently supervised: 7, **Postdoctoral scholars sponsored:** 2.