

Curriculum Vitae

Mohammad Nayeem Teli, Ph.D.

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Google Scholar: scholar.google.com/citations?user=3mSGT78AAAAJ&hl=en

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Github: <https://github.com/nayeemz/DeepLearning>

Research Interests

Machine Learning, Data Science, Pattern Analysis, Data Analysis, Computer Vision, Face Recognition, Face Detection.

Technical Skills

- **Machine Learning:** Naive Bayes, Logistic Regression, ConvNet, Siamese Networks, Triplet Loss, ResNets, Neural style transfer, One shot learning, object detection, classification, regression, k-means clustering, hierarchical clustering, decision trees, SVM etc..
- **Statistical Methods:** time embedded signals, regression models, hypothesis testing and confidence intervals, principal component analysis and dimensionality reduction, optimization.
- **Toolkits:** numpy, scipy, tensorflow, keras, pandas, PIL, matplotlib.
- **Software and Programming Languages:** Python, R, Java, Linux, LaTeX.

Academic Background

- 2013, Ph.D. Computer Science, Colorado State University, USA.
- 2007, M.S. Computer Science, Colorado State University, USA.
- 2000, B.E. Regional Engineering College (now National Institute of Technology), Kashmir University.

Ph.D. Dissertation Topic

- Mohammad Nayeem Teli. "Face Detection Using Correlation Filters", Colorado State University, USA.

MS Thesis

- Mohammad Nayeem Teli. "Dimensionality Reduction And Classification of Time Embedded EEG Signals". Colorado State University, USA.
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Academic Experience

- **University of Maryland, College Park, MD:**
Lecturer, Electrical & Computer Engineering.

July, 1 2018 - Current

In Fall'18 I taught Algorithms, and Object Oriented Programming in Java, courses to Computer Science undergraduate students at UMD. In Spring '19 I am going to teach Computer Vision, Algorithms and Discrete Structures courses. In the summer of 2019 I will be teaching Data Science and carrying out research in pain detection.

- **Harrisburg University of Science & Technology, Harrisburg, PA:**
Assistant Professor, Computer & Information Science.

July, 23 2015 - November 02, 2017

Teaching courses like Principles of Machine Learning, Data Mining, Artificial Intelligence, Operating Systems, Software Engineering, Algorithms, Web Application Programming, Mathematical Modeling, Python Programming, Algorithms and Data Structures, and crash courses in Programming languages like C, Java and Ruby on Rails, to Computer & Information Science undergraduate and graduate students at Harrisburg university. I also design and develop new courses and established Pattern Recognition Research Lab at HU. At this lab we are currently working on a research project to recognize human emotions. The role also involves advising students and being part of various faculty committees. Currently, I am a member of committee for establishment of Plagiarism policy, and the committee for undergraduate research.

- **National Institute of Technology, Srinagar:**
Assistant Professor, Department of Computer Science & Engineering

March, 2014 - Dec., 2014

Teaching Computer Graphics, Object Oriented Programming using C++ and core Java to Computer Science and Information Technology undergraduate students at National Institute of Technology, Srinagar. This role also involved advising senior level computer science projects. During my tenure, I was nominated for Ramanujan fellowship.

- **Colorado State University, USA:**
Instructor, Department of Computer Science

January, 2013 - May 15, 2013

Teaching Object Oriented Programming course using Java to Computer Science undergraduate students at Colorado State University.

- **Graduate Research Assistant**

August 2009 - December 2012

Research, development and evaluation of computer vision algorithms. Comparing and evaluating the results submitted to Face Recognition Vendor Tests and Multiple Biometric Grand Challenge. Design of Point and Shoot Challenge dataset.

- **Graduate Systems Assistant**

Spring 2005 - Summer 2009

Support of Computer Science Department network. Software installation and maintenance, administrative scripting, troubleshooting, system upgrades in a Linux, Solaris, Mac OS X environment.

Machine Learning Projects

- *“A Deep Learning Approach to Human Face Expression Recognition”*

A multi-layer Convolutional Neural Network (CNN) with max-pooling is used to classify seven basic human face expressions identified by the American Psychological Association (APA) that run across cultures: anger, contempt, disgust, fear, joy, sadness and surprise. These emotions are expressed by a soft-max output layer with seven outputs.

- *“Face Verification and Recognition system based on FaceNet and DeepFace”*

A Convolutional Neural Network implementation of a face recognition system based on the ideas from the papers on FaceNet and DeepFace. We implemented triple loss function and used a pre-trained model for this project.

- “*Image Classification Using ResNets*”
Implementation of a Deep Neural Network using ResNets. In this project basic building blocks of ResNets were built for image classification. We used a ResNet with 50 layers.
 - “*Object Detection Using YOLO*”
In this project two YOLO models were used for object detection and applied to a car detection dataset. The goal of such car detection is in the application of autonomous driving.
 - “*Deep Learning & Art*”
In this project neural style transfer algorithm was implemented to generate novel artistic images using content and style images.
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International Journal Publications

1. **Mohammad Nayeem Teli**, Bruce A. Draper, and J. Ross Beveridge. “Face Detection in Repeated Settings”, arXiv:1903.08649, March 2019.
 2. Luis Diego Briceno, Howard J. Siegel, Anthony A. Maciejewski, Ye Hong, Brad Lock, Charles Panaccione, Fadi Wedyan, **Mohammad Nayeem Teli**, and Chen Zhang. “Resource Allocation in a Client/Server System for Massive Multi-Player Online Games”, IEEE Transactions on Computers, Vol. 63, No. 12, pp. 3127–3142, Dec. 2014.
 3. Ryan Forbes and **Mohammad Nayeem Teli**. “Particle Swarm Optimization on Multi-Funnel Functions”, in Computer Aided Optimum Design in Engineering X11, Vol. 255, 2006.
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International Conference Publications

1. J. Ross Beveridge, P. Jonathon Phillips, David Bolme, Bruce A. Draper, Geof H. Givens, Yui Man Lui, **Mohammad Nayeem Teli**, Hao Zhang, Todd Scruggs, Su Cheng, Kevin Bowyer and Pat Flynn. “The Challenge of Face Recognition from Digital Point-and-Shoot Cameras”, in The IEEE Sixth International Conference on Biometrics: Theory, Applications and Systems (BTAS 2013), Portland, Oregon, USA. **Best Poster Award**
2. P. Jonathon Phillips, J. Ross Beveridge, David Bolme, Bruce A. Draper, Geof H. Givens, Yui Man Lui, Su Cheng, **Mohammad Nayeem Teli**, Hao Zhang. “On the Existence of Face Quality Measures”, The IEEE Sixth International Conference on Biometrics: Theory, Applications and Systems (BTAS 2013), Portland, Oregon, USA.
3. **Mohammad Nayeem Teli**, J. Ross Beveridge, P. Jonathon Phillips, Geof H. Givens, David S. Bolme and Bruce A. Draper. “Biometric Zoos: Theory and Experimental Evidence”, The IEEE International Joint Conference on Biometrics (IJCB 2011), Washington D.C., USA.
4. Jon Parris, Michael Wilber, Brian Heflin, Ham Rara, Ahmed El-barkouky, Aly Farag, Javier Movellan, Anonymous, Modesto Castrillon-Santana, Javier Lorenzo-Navarro, **Mohammad Nayeem Teli**, Sebastien Marcel, Cosmin Atanasoaei and Terry Boulton. “Face and Eye Detection on Hard Datasets”, The IEEE International Joint Conference on Biometrics (IJCB 2011), Washington D.C., USA.
5. J. Ross Beveridge, P. Jonathon Phillips, Geof H. Givens, Bruce A. Draper, **Mohammad Nayeem Teli** and David S. Bolme. “When High-Quality Face Images Match Poorly”, The 9th IEEE Conference on Automatic Face and Gesture Recognition (FG 2011), March 21-23, 2011 in Santa Barbara, CA, USA.
6. **Mohammad Nayeem Teli** and Ross Beveridge. “Pose Manifold Curvature is Typically Less Near Frontal Face Views”, The IEEE Third International Conference on Biometrics: Theory, Applications and Systems (BTAS '09), September 28-30, 2009 in Washington DC, USA.
7. **Mohammad Nayeem Teli** and Charles Anderson. “Nonlinear Dimensionality Reduction of Electroencephalogram (EEG) for Brain Computer Interfaces”, the 31st Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC '09), September 2-6, 2009 in Minneapolis, Mn, USA.
8. Luis Diego Briceno, Howard J. Siegel, Anthony A. Maciejewski, Ye Hong, Brad Lock, **Mohammad Nayeem Teli**, Fadi Wedyan, Charles Panaccione, and Chen Zhang. “Robust Resource Allocation in a Massive Multiplayer Online Gaming Environment”, Fourth International Conference on the Foundations of Digital Games (FDG 2009), April 26-30, 2009, in Port Canaveral, FL, USA.

9. Luis Diego Briceno, Howard J. Siegel, Anthony A. Maciejewski, Ye Hong, Brad Lock, **Mohammad Nayeem Teli**, Fadi Wedyan, Charles Panaccione, and Chen Zhang. “Resource Allocation in a Client/Server Hybrid Network for Virtual World Environments”, 17th Heterogeneous Computing Workshop (HCW 2008), in the CD-ROM proceedings of the 22nd International Parallel and Distributed Processing Symposium (IPDPS 2008), April 14-18, 2008 in Miami, FL, USA.
 10. **Mohammad Nayeem Teli**. “Dimensionality Reduction Using Neural Networks”, Proceedings of the Artificial Neural Networks In Engineering (ANNIE 07) Conference, Nov. 11-14 2007 in St. Louis, MO, USA.
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Other Publications

1. Luis D. Briceno, Ye Hong, Bradley Leo Lock, **Mohammad Nayeem Teli**, Fadi Ibrahim Wedyan, Charles Panaccione, Chen Zhang. “Robust Resource Allocation in a Client / Server Hybrid Network for Virtual World Environments”, in The Information Science and Technology Center (ISTEC), Student Research Poster Competition, Colorado State University , 2008. **Second Best Poster Award**.
 2. **Mohammad Nayeem Teli** and Endrit Thanasi. “Analysis of Datagram Congestion Control Protocol”, Colorado State University, Student Poster Competition, 2005.
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OpenSource Contributions

- Contributed a keyboard layout of my native language, Kashmiri, for Fedora operating system. It is also being used in Ubuntu and Debian operating systems.
 - Contributed code to PyVision, a computer vision library.
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Professional Activities

Committees/Panels

Past

- Undergraduate Research Committee at Harrisburg University.
- Committee for establishment of plagiarism policy at Harrisburg University.
- Program Committee 2015 International Conference on Advances in Computers, Communication, and Electronics Engineering (COMMUNE).
- Program Committee 1st IEEE International Conference on Next Generation Computing Technologies (NGCT-2015).

Reviewer

- Journal of Transactions on Knowledge and Data Engineering (TKDE).
 - Journal of Computer Vision and Image Understanding (CVIU).
 - International Conference on Computer Vision (ICCV), 2013.
 - 10th IEEE International Conference on Automatic Face and Gesture Recognition (FG), 2013.
 - 8th International Conference on Computer Vision Systems (ICVS), 2011.
 - 23rd IEEE International Conference on Tools with Artificial Intelligence (ICTAI), 2011.
 - Journal of Computer Science and Technology.
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Professional Experience

- **J&K Housing Board, Srinagar, India:**

State Level MIS Specialist, Department of Housing & Urban Development

March, 2015 - July 20, 2015

I headed a team of city level MIS experts of the J&K state. This team managed information systems to provide housing for the underprivileged under the Housing for All program of India .

- **Lead Software Developer**

Department of Computer Science , Colorado State University

Summer 2007

Implemented automated testing of student Java code through an interactive teaching web interface for use in Computer Science classes.

- **Software Engineer**

Hewlett-Packard, Fort Collins, CO, USA

Jan 2004 - Jan 2005

Hewlett-Packard, Bangalore India

July 2003 - Jan 2004

Customized HP OpenView Operations and Enterprise Administrative facility software. Customized HP OpenView Network Node Manager (NNM). Developed a plugin for managing non-SNMP objects using NNM which would only manage SNMP enabled objects.

- **Customer Services Engineer**

Wipro Infotech

October 2000 - July 2003

Customized CA Unicenter TNG helpdesk to work in a business processing operations company. Sun Solaris system administration and certification.

Grants - Principal Investigator

- *A Deep Learning Approach to Human Face Expression Recognition* (Phase I), Presidential Research Grant, Harrisburg University, 2017, \$ 20,000.

Awards

- Harrisburg University Presidential Research Grant recipient, 2016-17.
 - Ramanajum fellowship nominee, 2014.
 - Best Poster Award for a paper published at the 6th IEEE International Conference on Biometrics: Theory, Applications, and Systems, 2013.
 - Ph.D. Doctoral Consortium fellowship at The IEEE International Joint Conference on Biometrics (IJCB), 2011.
 - Graduate Research Assistantship recipient, Computer Vision Lab, Colorado State University from Technical Support Working Group (TSWG), 2009-2013.
 - Graduate Systems Assistantship recipient, Department of Computer Science, Colorado State University, 2005-2009.
 - 2nd Place, ISTE Student Research Poster Contest, Colorado State University.
 - 25 th Rank among approximately 30,000 examinees in the Jammu and Kashmir Engineering Common Entrance Examination.
 - Recipient of Science Talent Promotion Scholarship from Jammu and Kashmir Government.
 - Best Student Award in high school
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Outreach and Media

- [Keyboard contribution](#)
 - Dark Data: Analyzing Unused and Ignored Information, [EContent Magazine](#)
 - Biometric Zoo: [Tech Talk](#)
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Community Service

- Website Developer for Not in Our Town Alliance, Fort Collins, CO.
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