Curriculum Vitae

Mohammad Nayeem Teli, Ph.D.
Senior Member IEEE,
Senior Lecturer,
Department of Computer Science,
University of Maryland,College Park,
nayeem@umd.edu
Google Scholar: scholar.google.com/citations?user=3mSGT78AAAAJ&hl=en

Research Interests

Multi modal LLMs, multi-modal hallucinations in LLMs, Protein LLMs, pose estimation of athletes for coaching, and invertible diffusion models.

Academic Background

- Ph.D. Computer Science, Colorado State University, USA.

- M.S. Computer Science, Colorado State University, USA.

- B.E. Regional Engineering College (now National Institute of Technology), Kashmir University.

Academic Experience

- **University of Maryland, College Park, MD**:

Senior Lecturer, Department of Computer Science.	August, 2021 - Current
Lecturer, Department of Computer Science.	August, 2 2020 - July, 2021
Lecturer, Electrical & Computer Engineering.	July, 1 2018 - August, 1 2020

  I teach Computer Science courses like, Machine Learning, Computer Vision, Data Science, Algorithms, and Discrete Structures, to Computer Science students at UMD. I am also supervising student research projects. I am working on research projects Graduate and undergraduate students involving LLMs and Generative AI. In addition I supervise undergraduate research. My other roles involve serving on various committees in the department, like the Department council and hiring committees. I am a recipient of the best Lecturer award in the Department of Computer Science.

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

  July, 23 2015 - November 02, 2017

  Taught 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 students at Harrisburg university. I also designed and developed new courses and established Pattern Recognition Research Lab. At this lab we worked on a research project to recognize human emotions. I was a member of the 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**
  September 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**
  January 2005 - September 2009

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

International Conference Publications

1. "My LLM might Mimic AAE - But When Should it?", meta-reviews are complete and it has been passed to the Senior Program Committee members, for an accept/reject decision at NAACL'25.

2. Karan Jain and **Mohammad Nayeem Teli**. "Bringing together invertible UNets with invertible attention modules for memory-efficient diffusion models", accepted to appear at 9th International Workshop on Health Intelligence (W3PHIAI) in conjunction with the 39th AAAI Conference on Artificial Intelligence (AAAI-25), Philadelphia PA, March 4th, 2025.

3. **Mohammad Nayeem Teli**. "TeliNet: Classifying CT images for COVID-19 diagnosis", in Proceedings of the IEEE/CVF International Conference on Computer Vision (ICCV) Workshops, Montreal, Canada, October 11- 17, 2021.

4. **Mohammad Nayeem Teli**, Seungwon Oh. "Resilience of Autonomous Vehicle Object Category Detection to Universal Perturbations", in the IEEE International IOT, Electronics, and Mechatronics (IEMTRONICS 2021) Conference, 21st - 24th April, 2021, Toronto, Canada. **Best Oral Presentation Award**.

5. 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**

6. 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.

7. **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.

8. Jon Parris, Michael Wilber, Brian Heflin, Ham Rara, Ahmed El-barkouky, Aly Farag, Javier Movellan, Anonymous, Modesto Castrilon-Santana, Javier Lorenzo-Navarro, **Mohammad Nayeem Teli**, Sabastien Marcel, Cosmin Atanasoaei and Terry Boult,. "Face and Eye Detection on Hard Datasets", The IEEE International Joint Conference on Biometrics (IJCB 2011), Washington D.C., USA.

9. 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.

10. **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.

11. **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.

12. 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.

13. 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.

14. **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.

International Journal Publications

1. 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.

2. Ryan Forbes and **Mohammad Nayeem Teli**. "Particle Swarm Optimization on Multi-Funnel Functions", in Computer Aided Optimum Design in Engineering X11, Vol. 255, 2006.

Arxiv Papers

1. Sagar Saxena and **Mohammad Nayeem Teli**. "Improving Deep Generative Models on Many-To-One Image-to-Image Translation", arXiv:2402.12531, February 2024.

2. Kevin Hyekang Joo, Shiyuan Duan, Shawna L. Weimer and **Mohammad Nayeem Teli**. "Birds' Eye View: Measuring Behavior and Posture of Chickens as a Metric for Their Well-Being", ArXiv:2205.00069, April 2022.

3. Sagar Saxena, and **Mohammad Nayeem Teli**. "Comparison and Analysis of Image-to-Image Generative Adversarial Networks: A Survey", arXiv:2112.12625, Jan. 2022.

4. **Mohammad Nayeem Teli**, Bruce A. Draper, and J. Ross Beveridge. "Face Detection in Repeated Settings", arXiv:1903.08649, March 2019.

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.

Presentations

1. "*TeliNet: Classifying CT images for COVID-19 diagnosis*", at AI-enabled Medical Image Analysis Workshop and Covid-19 Diagnosis Competition (MIA-COV19D), International Conference on Computer Vision (ICCV) 2021, Montreal, Canada, October 11, 2021.

2. "*Resilience of Autonomous Vehicle Object Category Detection to Universal Perturbations*", IEEE International Conference on IOT, Electronics, and Mechatronics (IEMTRONICS 2021), April 21 - 24, 2021, Toronto, Canada (in virtual mode). **Best Oral Presentation Award**.

3. "*Resource Allocation in a Client/Server for Massive Multi-Player Online Games*", IEEE International Conference on Biometrics: Theory, Applications and Systems, September 29 - October 2, 2013, Washington DC, USA.

4. "*The Challenge of Face Recognition from Digital Point-and-Shoot Cameras*", IEEE International Conference on Biometrics: Theory, Applications and Systems, September 29 - October 2, 2013, Washington DC, USA.

5. "*On the Existence of Face Quality Measures*", IEEE International Conference on Biometrics: Theory, Applications and Systems, September 29 - October 2, 2013, Washington DC, USA.

6. "*When High-Quality Face Images Match Poorly*", the 9th IEEE Conference on Automatic Face and Gesture Recognition, March 21-23, 2011, Santa Barbara, CA, USA.

7. "*Biometric Zoos: Theory and Experimental Evidence*", International Joint Conference on Biometrics, October 10 - 13, 2011, Washington DC, USA.

8. "*Face and Eye Detection on Hard Datasets*", International Joint Conference on Biometrics, October 10 - 13, 2011, Washington DC, USA.

9. "*Pose Manifold Curvature is Typically Less Near Frontal Face Views*", IEEE International Conference on Biometrics: Theory, Applications and Systems, September 28 - 30, 2009, Washington DC, USA.

10. "*Nonlinear Dimensionality Reduction of Electroencephalogram (EEG) for Brain Computer Interfaces*", 31st IEEE Engineering in Medicine and Biology Society, September 2 - 6, 2009, Minneapolis, Minnesota, USA.

11. "*Dimensionality Reduction Using Neural Networks*", Artificial Neural Networks in Engineering Conference, November 11 - 14, 2007, St. Louis, Missouri, USA.

Invited Talks

1. Expert Lecture: "*Advances in Deep Learning: Generative AI.*", August 17, 2023.
   at National Institute of Technology (NIT), Srinagar Kashmir.

2. Expert Lecture: "*Introduction to Machine Learning.*", August 08, 2022.
   at Government College of Engineering and Technology, Kashmir.

3. Expert Lecture: "*Preparing for careers in Computer Science.*", for high school students. May 02, 2021.
   at Kashmir Education Initiative (KEI) USA.

4. Expert Lecture: "*Introduction to Computer Science and more...*", for high school students. March 21, 2021.
   at Hyderabadi Association of Central Pennsylvania (HACPA), PA.

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.

Professional Activities

Professional Memberships

- Senior Member, Institute of Electrical and Electronics Engineers (IEEE).
- Professional Member, Association for Computing Machinery (ACM).
- Member, American Association for the Advancement of Science (AAAS).

Reviewer

- Program Committee Member, British Machine Vision Conference (BMVC), 2024.
- Program Committee Member, ECAI - 27TH European Conference on Artificial Intelligence, 2024.
- Program Committee Member, ICCV Workshop on Computer Vision for Automated Medical Diagnosis, 2021, 2023.
- IEEE Congress on Evolutionary Computation (CEC), 2022
- IEEE International Joint Conference on Neural Networks (IJCNN), 2022
- Remote Sensing journal, 2021, 2022.
- Technical Program Committee Member and reviewer, IEEE IOT, Electronics, and Mechatronics (IEMTronics) Conference, 2021.
- NeurIPS 2020 Workshop on Dataset Curation and Security (WDCS), 2020.
- 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.

Committees/Panels

- Member Department Council, 2024.
- Committee Member, CS PTK Merit Review FY25.
- Peer review committee, 2023-24.
- Chair Lecturer hiring committee, Department of Computer Science, UMD, 2022-23.
- Lecturer hiring committee, Department of Computer Science, UMD, 2022.
- Appointment, Evaluation and Promotion (AEP) committee for Lecturers, Senior Lecturers and Principal Lecturers, Department of Computer Science, UMD, 2021.
- Internal audit committee, Department of Computer Science, UMD, 2021

- Lecturer hiring committee in the Department of Computer Science, 2021.
- Lecturer hiring committee in the Department of Electrical and Computer Engineering, 2019-20.
- Committee for teaching award, Department of Computer Science, 2019-20.
- Undergraduate Research Committee at Harrisburg University, 2016-17.
- Committee for establishment of plagiarism policy at Harrisburg University, 2016-17.
- 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).

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 informations 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 - December 2004

  Hewlett-Packard, Bangalore India   August 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
- PI, *Computer Vision Educational Web Application for Beginners*, a research grant proposal submitted to Google's Computer Science Education Research (CS-ER) grants program, 2022, $ 53,132.72 (declined).
- PI, *Preservation of Koshur*, a research grant proposal submitted to NSF Dynamic Language Infrastructure - NEH Documenting Endangered Languages (DLI-DEL) Program, 2021, $ 450,000 (declined).
- PI, on a seed grant submitted to Maryland Agricultural Experiment Station (MAES) Competitive Grant Program to study chicken behavior, 2021-22, $ 30,000 (declined).
- PI, *A Deep Learning Approach to Human Face Expression Recognition* (Phase I), Presidential Research Grant, Harrisburg University, 2017, $ 20,000.

Awards

- Senior Member IEEE.
- Best Lecturer 2018-19, Department of Computer Science, UMD, College Park.
- 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, ISTEC 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

Outreach and Media

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

Community Service

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