Mohammad Khalid Pandit ⓘD

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SUMMARY

I received my PhD in Machine Learning and Neural Networks from the Department of Computer Science & Engineering, NIT-Srinagar in 2021. I worked on designing the Deep learning models that are computationally sparse and can be possibly fit into resource constraint devices.cI was working as Post-Doctoral Fellow at IIT-Delhi in the Embedded Intelligence Lab on performance evaluation of embedded platforms using deep learning workloads with Prof. RijuRekha Sen.

EDUCATION

2017 – 2021	**Ph.D.**	NATIONAL INSTITUTE OF TECHNOLOGY, SRINAGAR
	Model Distribution and Sparse Architecture Search for Deep Neural Networks in Internet of Things	
2011 – May. 2013	**Master of Engineering**	ANNA UNIVERSITY, CHENNAI
	Computer Science and Engineering	
2007 – May. 2011	**Bachelor of Engineering**	ANNAMALAI UNIVERSITY, CHENNAI
	Computer Science and Engineering	

WORK EXPERIENCE

August 2023 – Present	**Assistant Professor (Grade-II)**	NATIONAL INSTITUTE OF TECHNOLOGY, HAMIRPUR
	Department of Computer Science and Engineering	
Dec. 2021 – August 2023	**Post-Doctoral Research Fellow**	INDIAN INSTITUTE OF TECHNOLOGY, DELHI
	Department of Computer Science and Engineering	
Sept. 2018 – Dec 2021	**Assistant Professor (TEQIP-III)**	IUST, JAMMU & KASHMIR *(Under NPIU, MHRD)*
	Department of Computer Science and Engineering	
Sept 2013 – May 2017	**Assistant Professor**	NATIONAL INSTITUTE OF TECHNOLOGY, SRINAGAR
	Department of Computer Science and Engineering	

EXTERNAL GRANTS

1. Spiking neural network based computational model for Internet of things
   Granted by: Ministry of Human Resource Development, NPIU
   Grant Amount: **1.2 million** INR **(PI)**

2. Adaptive deep neural networks for IoT
   Granted by: TEQIP, NPIU (IUST),
   Grant Amount: **0.2 million** INR **(PI)**

3. Development of CADe and CADx systems for Brain Tumors
   Granted by: TEQIP, NPIU (IUST),
   Grant Amount: **0.2 million** INR **(Co-PI)**

4. Using Longitudinal data for early detection and progress monitoring Alzheimer's disease,
   Granted by: J & K DST,
   Grant Amount: **0.79 million** INR **(Co-PI)**

PUBLICATIONS

JOURNALS

1. **Mohammad Khalid Pandit**, RN Mir, MA Chishti, "Learning Sparse Neural Networks Using Non-Convex Regularization", *IEEE Transactions on Emerging Topics in Computational Intelligence, 6(2),2022, 287-299.*

2. **Mohammad Khalid Pandit**, Mahroosh Banday, "Variance Guided Structured Sparsity in Deep Neural Networks", *IEEE Transactions on Artificial Intelligence, Early Access,* DOI: 10.1109/TAI.2022.3221688.

3. O Shafi, **Mohammad Khalid Pandit**, A Saini, Gayathri A, R Sen, "Repercussions of Using DNN Compilers on Edge GPUs for Real Time and Safety Critical Systems: A Quantitative Audit", *ACM Journal on Emerging Technologies in Computing Systems, Just Accepted,* DOI: 10.1145/3611016.

4. SA Banday, **Mohammad Khalid Pandit**, A R Khan, "Achieving a reversible lower dimensionality transformation for picture archiving and communication system in healthcare." *IET Electronics Letters 56(17), 2020, 863-865.*

5. SA Banday, **Mohammad Khalid Pandit**, "Texture maps and chaotic maps framework for secure medical image transmission.", *Multimedia Tools and Applications, 80(1), 2021, 17667–17683.*

6. **Mohammad Khalid Pandit**, SA Banday, RN Mir, MA Chishti, "Automatic Detection of COVID-19 from Chest Radiographs using Deep Learning", *Radiography (Elsevier), 27(2), 2020, 483-489.*

7. **Mohammad Khalid Pandit**, RN Mir, MA Chishti, "Adaptive task scheduling in IoT using reinforcement learning", *International Journal of Intelligent Computing and Cybernetics, 13(3) 2020*

8. **Mohammad Khalid Pandit**, RN Mir, MA Chishti, "Adaptive Deep Neural Networks for the Internet of Things", *International Journal of Sensors, Wireless Communications and Control, 10(4), 2020, 570-581*

9. **Mohammad Khalid Pandit**, SA Banday, "SARS n-CoV2-19 detection from Chest R-Ray Images using Deep Neural Networks", *International Journal of Pervasive Computing and Communications, 16(5), 2020, 419-427*

10. **Mohammad Khalid Pandit**, RN Mir, MA Chishti. "Machine Learning at the Edge of Internet of Things", *CSI Communications.*, Nov 2017.

11. SA Banday, **Mohammad Khalid Pandit**, "Brain Tumor Detection via Asymmetry Quantification across Mid Sagittal Plane", *Recent Advances in Computer Science and Communications, 15(2), 2022, 266-273*

CONFERENCES

1. A Saini, Omkar S, **Mohammad Khalid Pandit**, R Sen, Gayathri A, "Bang for the Buck: Evaluating the cost-effectiveness of Heterogeneous Edge Platforms for Neural Network Workloads", *ACM/IEEE Symposium on Edge Computing (SEC) 2023.*

2. **Mohammad Khalid Pandit**, "Non-convex $T\ell_1$ regularization for learning sparse neural networks", accepted in **Sparsity in Neural Networks**, *Advancing Understanding and Practice (SNN Workshop 2021).*

3. **Mohammad Khalid Pandit**, "Variance Guided Structured Sparsity in Deep Neural Networks", accepted in **Sparsity in Neural Networks**, *Advancing Understanding and Practice (SNN Workshop 2021).*

4. **Mohammad Khalid Pandit**, RN Mir, MA Chishti, "Distributed IoT Analytics Across Edge, Fog and Cloud", *2018 Fourth International Conference on Research in Computational Intelligence and Communication Networks (ICRCICN)*, IEEE.

Book Chapters

1. R Kodana, S R Mohammad, **Mohammad Khalid Pandit**, P Parmar, S Pathaniaa, "Internet of things in food industry", *Innovation Strategies in the Food Industry*, Elsevier.

2. A R Khan, **Mohammad Khalid Pandit**, S A Banday, "Improving the Security of data in IoT by performing Data Aggregation using neural network based Autoencoders", *Security and Privacy in IoT*, Taylor and Francis, CRC Press.

3. S A Banday, **Mohammad Khalid Pandit**, "Securing Medical Images via a Texture and Chaotic Key Framework", *Multimedia Security-Algorithm development, Analysis and Applications*, Springer.

Invited/Guest Lectures

1. Lecture series for Faculty Development Program on Deep Learning
   Soft Computing Research Society (SCRS), *July 2020*

2. One month Short term Course on Machine Learning
   Moradabad Institute of Technology, *October 2020*

3. Invited guest lecture at Techveganza 2015
   National Institute of Technology, Srinagar

Memberships

1. Member ACM

2. Member IEEE

3. Life Member, International Association of Computer Science and Information Technology (IACSIT)

4. Life Member, International Association of Engineers (IAENG)

5. Executive Committee Member, Computer Society of India (2009-2010)

References

1. **Professor Roohie Naaz Mir**
   Professor & Head, Department of CSE, National Institute of Technology, Srinagar
   ✉ naaz310@nitsri.ac.in
   ☐ +91-7006687815

2. **Professor Mohammad Ahsan Chishti**
   Dean, SOET, Central University of Kashmir
   ✉ ahsan@nitsri.ac.in
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3. **Professor Riju Rekha Sen**
   Assistant Professor, Department of CSE, Indian Institute of Technology Delhi
   ✉ riju@cse.iitd.ac.in
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