Geetha Chandrasekaran

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Applied research in 5G wireless scheduling algorithms through linear optimization, statistical inference and machine learning with 5 years of industry experience in firmware development for embedded systems in telecommunications and consumer products.

EDUCATION

University of Texas at Austin, *PhD in Electrical & Computer Engg.* | USA　　GPA: 3.93 / 4.0　　May 2024
Indian Institute of Technology Madras, *M.S in Electrical Engineering* | India　　GPA: 10 / 10　　Feb 2016

EXPERIENCE

Texas A&M University – San Antonio , *Visiting Assistant Professor* | San Antonio, Texas, USA　　Aug 2024 - Present
- Design and development of syllabus, lecture notes, and other course material for lecture and lab courses on Foundations of Wireless Communications I & II, Embedded System Design, and Near Field Communications.

University of Texas at Austin, *Graduate Research Assistant* | Austin, Texas, USA　　Sep 2019 - May 2024
- Opportunistic scheduling for heterogeneous latency constrained users using statistical inference and machine learning prediction models (LSTM, RNN)
- Adaptive rate constrained wireless scheduling for heterogeneous users using online algorithms for QoS provision
- Decentralized frequency reuse planning through multi agent reinforcement learning (Deep RL DQN) across interference limited wireless base stations

Qualcomm Inc., *Interim Engg. Intern* | San Diego, California, USA　　Jun 2022 - Sep 2022
- Joint Transmit Power Adaptation and User Load Balancing for Wireless Networks with QoS Constrained Users

Qualcomm Inc., *Interim Engg. Intern* | Remote (USA)　　May 2020 - Aug 2020
- Breath Rate and Heart Rate monitoring through Smartphone using WiFi Channel State Information

Nokia Bell Labs, *Summer Research Intern* | New Providence, New Jersey, USA　　May 2019 - Aug 2019
- Distributed Reinforcement Learning for Joint Cellular Transmit Power Control and Interference Mitigation

Motorola India Pvt Ltd, *Software Engineer* | Bengaluru, India　　May 2007 - Apr 2010
- Feature enhancements, HDCP compliance using ASTRO HDMI analyzer and change requests for Settop Box
- Requirements identification and architectural discussions for Picture-in-Picture feature
- Product feature validation and identifying Design Validation test cases

Honeywell Technology Solutions Lab, *Engineer (Team Member)* | Madurai, India　　Aug 2005 - May 2007
- End to End solution for on board Coldfire processor testing
- Engineering support to fix bugs for Star2 RFID access controller
- Designed a proof of concept for the patent filed "Systems and methods for auto addressing in a control network " using Atmega16 processor, from scratch.

AWARDS

Patent Award (2010, Honeywell Technology Solutions Lab), Bravo Award (2008, Motorola India Private Ltd.), Spot Award (2007, Honeywell Technology Solutions Lab)

SKILLS

Programming　Matlab, Python, C/C++, Tensorflow, Pytorch, Embedded C, LaTeX

PATENTS & PUBLICATIONS

- **G. Chandrasekaran**, *"An Upper Bound on the Loss Probability of Network Slice Requests with Impatient Tenants"*, Work in Progress.
- **G. Chandrasekaran**, G. de Veciana, V. Ratnam, H. Chen, C. Zhang, *"Measurement Based Delay and Jitter Constrained Wireless Scheduling with Near-Optimal Spectral Efficiency"*, **IEEE Trans. Netwk.** 2024.
- **G. Chandrasekaran**, G. de Veciana, *"Opportunistic Scheduling for Users with Heterogeneous Minimum Rate QoS Requirements"*, **IEEE ICC**, Jun 2024.
- **G. Chandrasekaran**, G. de Veciana, V. Ratnam, H. Chen, C. Zhang, *"Delay and Jitter Constrained Wireless Scheduling With Near-Optimal Spectral Efficiency"*, **IEEE PIMRC**, Sep 2023.
- **G. Chandrasekaran**, G. de Veciana, V. Ratnam, H. Chen, C. Zhang, *"Spectrally Efficient Guaranteed Rate Scheduling for Heterogeneous QoS Constrained Wireless Networks"*, **IEEE WiOpt**, Aug 2023.
- **G. Chandrasekaran**, G. de Veciana, *"Distributed Reinforcement Learning based Delay Sensitive Decentralized Resource Scheduling"*, **IEEE WMLC**, Aug 2023.
- **G. Chandrasekaran**, S. Kalyani, *"Performance Analysis of Cooperative Spectrum Sensing over κ-μ Shadowed Fading"*, **IEEE Wireless Commun. Lett.**, Jul 2015.
- S. Kumar, **G. Chandrasekaran**, S. Kalyani, *"Analysis of Outage Probability and Capacity for κ-μ/η-μ Faded Channel"*, **IEEE Commun. Lett.**, Feb 2015.
- Sangeetha Govindaraju, **Geetha Chandrasekaran**, et al., *"Systems and methods for auto addressing in a control network "*, **US Patent no: 8489779B2**, 2013.