

Bharath Keshavamurthy

Research Assistant | PhD Student | Purdue Communications Research Lab

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Summary

The objective of my life is to pursue state-of-the-art research in the arena of Electrical and Computer Engineering and strive to facilitate significant contributions to Science and Technology. Having an optimum level of understanding in the end-to-end development of communication & networking technologies, I hope to achieve path-breaking success and in doing so, solve some of the greatest problems plaguing mankind today such as Climate Change, Global Conflicts, Public Safety, and the need for Sustainable Development.

Experience

Research Assistant, NSF EARS Grant, Communications Research Lab, Purdue University [Oct 2020 - Present]

Stochastic modeling of communication networks | mmWave Propagation Modeling | UAV Trajectory Optimization

Research Assistant, DARPA Make-It Grant, Bindley Bioscience Center, Purdue University [Jan 2020 - Oct 2020]

High-throughput analytics | Structure elucidation via VAEs | Intelligent Reaction Preparation via RL | Visualization

Research Assistant, DARPA SC2 Grant, Communications Research Lab, Purdue University [Aug 2018 - Dec 2019]

DARPA Spectrum Collaboration Challenge | Intelligent Spectrum Sensing and Access via Approximate POMDPs

Graduate Engineering Intern, DC NX-OS Platform, CISCO, San Jose, CA, USA [May 2019 - Aug 2019]

A.I. models in the CISCO Nexus data center product portfolio: RNNs | DL classifiers | Sensitivity analyses | A3C DDPG

Senior Engineer, Digital Operations R&D, NOKIA, Bangalore, KA, India [June 2016 - July 2018]

Software development | DevOps | Correlated reasoning ML | Computer networking | Telecommunications R&D

Networking Intern, Ericsson India Global Services Pvt. Ltd, Bangalore, KA, India [Feb 2016 - July 2016]

Cell planning | Network deployment & optimization | SONs | HETNETs | Small cells

Intern, MCSRDC, Hindustan Aeronautics Limited, Bangalore, KA, India [July 2015 - Aug 2015]

ATC Transponder for SSR with encoding altimeter and SLS | Aircraft navigation, communication, and combat systems

Education

Doctor of Philosophy, Electrical and Computer Engineering, 3.85/4.0, Purdue University [Jun 2020 - Present]

Master of Science, Electrical and Computer Engineering, 3.65/4.0, Purdue University [Aug 2018 - May 2020]

Bachelor of Engineering, 9.61/10, BMS College of Engineering, Bangalore, India [Sept 2012 - June 2016]

Pre-University, 96.1%, New Horizon Pre-University College, Bangalore, India [June 2010 - Mar 2012]

Matriculation (10th Grade), 95%, St. Thomas Public School (ICSE), Bangalore, India [June 2009 - Mar 2010]

Major Projects

Adaptive Multi-Scale Scheduling and Trajectory Design for Power-Constrained UAV Relays [Jan 2021 - Present]

28GHz Propagation Modeling in Urban and Suburban Radio Environments on NSF POWDER [Oct 2020 - Present]

Over-The-Air (CBRS) Operations of the BAM! Wireless DARPA SC2 Radio on NSF POWDER [Mar 2021 - Present]

Intelligent Spectrum Sensing and Access via Randomized Approximate POMDPs [Aug 2018 - Apr 2021]

High-Throughput Analytics and Structure Elucidation via DESI Mass Spectrometry	[Jan 2020 - Oct 2020]
Multi-agent Swarm Optimization using e-puck2 robots in Fully Distributed Mesh WLANs	[Oct 2019 - Oct 2020]
Purdue BAM! Wireless: DARPA Spectrum Collaboration Challenge (SC2) Cognitive Radio	[Aug 2018 - Nov 2019]
A.I Models in the CISCO Nexus Data Center Networking Product Portfolio, CISCO	[May 2019 - Aug 2019]
Cross-Layer Optimization in Decentralized Ad-hoc Cognitive Radio Networks	[Jan 2019 - May 2019]
Automated Operations and Recovery (AOR), Digital Ops, Nokia Applications & Analytics	[Jun 2016 - July 2018]
IEEE 802.11af: A Hardware Platform to utilize the TV White Spaces in India, BMSCE	[Dec 2015 - Aug 2016]
Full Custom Design of a sensor node for Industrial WSNs, DRDO-BMSCE	[Sept 2015 - May 2016]
IC Design of an OFDM Transceiver Architecture for LTE Downlink, BMSCE	[July 2015 - Dec 2015]

Honors and Accomplishments

Nokia Applaud Excellence Award, Excellence in field of work, hard work, and innovation, Nokia, Oct 2017
Best Research Paper, 5th IEEE International Conference on Wireless Networks and Embedded Systems, Oct 2016
Best Paper Presentation, 5th IEEE International Conference on Wireless Networks and Embedded Systems, Oct 2016
Best Research Paper, 4th National Conference on Networking, Embedded and Wireless Systems, June 2016

Publications

Learning-based Cognitive Radio Access via Randomized Point-based Approximate POMDPs
Under Review at IEEE Transactions on Cognitive Communications and Networking (TCCN), 2021
Learning-based Cognitive Radio Access via Randomized Point-based Approximate POMDPs
IEEE ComSoc International Conference on Communications (ICC), 2021
VLSI implementation of a novel sensor architecture for Industrial Wireless Sensor Networks
2016 IEEE International Conference on Computational Intelligence and Computing Research (ICCIC), 2016
Conceptual Design of Proactive SONS based on the Big Data Framework for 5G Cellular Networks
5th IEEE International Conference on System Modeling & Advancement in Research Trends (SMART), 2016
Communication System Design for White-Fi (802.11af)
10th IEEE ComSoc International Conference on Advanced Networks and Telecommunication Systems (ANTS), 2016
Hardware-in-Loop simulation of a White-Fi system utilizing the TV White Spaces in India
5th IEEE International Conference on Wireless Networks and Embedded Systems (WECON), 2016
Feasibility Analysis of a Super Wi-Fi Network for Rural Broadband Deployment in India
4th National Conference on Networking, Embedded and Wireless Systems, 2016