

Curriculum Vitae

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1 Biographical Sketch


Deepak Nadig is currently an Assistant Professor in the Department of Computer and Information Technology (CIT) at Purdue University. He is also the Director of the Cloud-native, Cyberinfrastructure and Networks (CYAN) Lab at Purdue CIT. He received his Ph.D. in Computer Engineering from the University of Nebraska-Lincoln (UNL) in 2021. Deepak was the Director of Technology and Research at SOLUTT Corporation, India, from 2009 to 2015. At SOLUTT, he was instrumental in leading the networking and wireless operations and responsible for the design, development, consulting and training services in 4G/LTE and multi-gigabit wireless technologies. He was an IEEE-certified Wireless Communications Professional (IEEE WCP®) from 2014 to 2019.

He has served on the technical program committees of several conferences and as a reviewer for leading journals such as IEEE/ACM Transactions on Networking, IEEE Journal on Selected Areas in Communications (IEEE JSAC), Computer Networks, IEEE INFOCOM, IEEE Globecom, IEEE/ACM International Symposium on Quality of Service (IWQoS), IEEE International Symposium on Local and Metropolitan Area Networks (LANMAN) and IEEE Sarnoff Symposium. He has published in several leading IEEE/ACM conferences and journals. He is a member of the IEEE, IEEE Communication Society and ACM.

Prof. Nadig was the recipient of the 2017 IEEE ANTS best paper award, the 2019 Milton E. Mohr Fellowship, two outstanding doctoral dissertation awards, and a fellow of the Preparing Future Faculty (PFF) program at UNL. His research interests are computer networks, cloud-native infrastructure, software-defined and programmable networks, network virtualization, AI/ML applications for networking and network security. Purdue University has supported his research.

2 Education

University of Nebraska-Lincoln, Lincoln, Nebraska, USA

Ph.D., Computer Engineering–Computer Science, 2021 

- Dissertation: Application-awareness in Softwarized Networks: Building Intelligent Networks through Application and Network-layer Collaboration
- Advisor: **Prof. Byrav Ramamurthy**

Visvesvaraya Technological University (R.V. College of Engineering), India

M.Tech., Digital Communication Engineering, 2007

- Thesis: Design and Deployment of DTN Architectures and Protocols for Interplanetary Communication Systems
- Advisor: Dr. A.G. Ananth

Visvesvaraya Technological University (Kalpataru Institute of Technology), India

B.E., Electronics & Communication Engineering, 2004

3 Research Interests

Computer Networks, Softwarized Networks (SDN/NFV/Programmable Data Planes), Cloud-native Infrastructure, AI/ML Applications to Networking, Data-Intensive Science, Network Security.

4 Honors and Awards

- **2022 FABRIC KNIT5 Workshop Grant**, To participate in the FABRIC KNIT5 Workshop, Chicago, Illinois, USA.
- **Outstanding Ph.D. Dissertation Award**, School of Computing, University of Nebraska-Lincoln, May 2022.
- **2022 Outstanding Dissertation Award**, College of Engineering, University of Nebraska-Lincoln, April 2022.
- **Purdue Bravo Award**, Purdue University, December 2021.
- **2021 IEEE LANMAN Conference Grant**, July 12-13, 2021, To participate in the 2021 IEEE LANMAN Conference.
- **Best-In-Session Paper Award**, 2019 IEEE INFOCOM Conference, Paris, France, 2019.
- **Fellow, 2019 Milton E. Mohr Awards Program**, College of Engineering, University of Nebraska-Lincoln, Nebraska, USA, 2019.
- **Outstanding Graduate Student Research Award (2018 - 2019)**, Dept. of CSE, University of Nebraska-Lincoln, Nebraska, USA, 2019.

- **2019 College of Engineering Graduate Student Conference Travel Grant Recipient**, College of Engineering, University of Nebraska-Lincoln, USA, 2019.
- **Fellow, Preparing Future Faculty (PFF) Program**, Graduate Studies, University of Nebraska-Lincoln, USA, 2018 – 2019.
- **NSF Student Travel Grant Recipient (2017 – 2019)**, To participate in the ACM Intl. Workshop on Security in Software Defined Networks & Network Function Virtualization
- **Best Paper Award**, Received the best paper award at the *2017 IEEE ANTS*, Conference (Acceptance rate: 30%), Odisha, India, 2017.
- **Graduate Research Assistantship**, January 2016 to present, Dept. of CSE, University of Nebraska-Lincoln, Nebraska, USA, 2016.
- **NSF GENI/GEC24 Travel Grant Recipient**, March 8–9, 2016, Arizona State University, Tempe, Arizona, USA, 2016.
- **Graduate Teaching Assistantship**, August–December 2015, Dept. of CSE, University of Nebraska-Lincoln, Nebraska, USA, 2015.
- **Certificate of Merit**, Ranked 1/18 in the Master’s Program, R.V College of Engineering, Bangalore, India, 2007.
- **Certificate of Excellence**, For work done as a Research Intern at Indian Space Research Organization (ISRO), Bangalore, India, 2007.
- **Best Student Paper Award**, Emerging Trends in Wireless Networks, 14th Annual Symposium, IEEE Bangalore Section, Bangalore, India, 2005.
- **Best Student Paper Award**, KSHITIJ’ 2003 – National Symposium, IEEE Student Branch, BEC, Karnataka, India, 2003.
- **Best Student Paper Award**, SYRITZ” – A National Level Symposium, NICE, Tamil-Nadu, India, 2003.
- **Best Student Paper Award**, ISTE Student Chapter – A State Level Symposium, KIT, Karnataka, India, 2003.

5 Professional Experience

Purdue University, USA

Aug 2021 – Present

ASSISTANT PROFESSOR, DEPT. OF COMPUTER AND INFORMATION TECHNOLOGY, and
DIRECTOR, PURDUE CYAN LAB

- CYAN lab focuses on fundamental research in the areas of Cloud-native, Cyberinfrastructure and Networks.

University of Nebraska-Lincoln, USA

Jan 2016 – May 2021

RESEARCH ASSISTANT, DEPT. OF COMPUTER SCIENCE & ENGINEERING

- Worked on NSF-Funded Project on Intelligent Optical Networks using Virtualization and Software-Defined Control

- Also worked on NSF-Funded Project on Innovating Network Cyberinfrastructure through Openflow and Content Centric Networking in Nebraska

ALLO Communications, USA **May 2019 – Aug 2019**
RESEARCH INTERN, ALLO RESEARCH

- Worked on analyzing distributed denial-of-service (DDoS) attacks, threat detection and modeling. Also worked on developing an SDN prototype for provisioning MEF network services.

Argonne National Laboratory, USA **May 2017 – Aug 2017**
RESEARCH AIDE, MATHEMATICS AND COMPUTER SCIENCE

- Worked on evaluating various high-performance data transfers tools such as GridFTP, XDD, FDT and mdtmFTP for WAN data movement.

University of Nebraska-Lincoln, USA **Aug 2015 - Dec 2015**
GRADUATE TEACHING ASSISTANT, DEPT. OF COMPUTER SCIENCE & ENGINEERING

- Involved in the assessment process; provided effective, timely, & appropriate feedback to students to support their learning.

SOLUTT Corporation, India **Jan 2010 – Aug 2015**
DIRECTOR, TECHNOLOGY & RESEARCH

- Instrumental in heading Networking/Wireless Operations at SOLUTT.
- Worked on multiple projects focusing on PHY/MAC layer Design, LTE, LTE-A, cdma2000, and IEEE 802.11 Multigigabit technologies.
- Experience in evaluating Antenna/RF Systems, Channel Models (incl. WINNER, SCM, 802.11TGn) and Traffic Engineering.
- Actively engaged in the design, development and delivery of advanced training programs, workshops and seminars. Trained over 600 Engineers in network design, LTE & LTE-A, UMTS, IEEE 802.11 & 16, and cdma2000 1X/EVDO.
- Established learning management frameworks and e-learning platforms for delivering online content, deploying secure real-time assessments, feedback and analytics to create the SOLUTT Virtual Learning Environment.

Cambridge Institute of Technology, Bangalore, India **Aug – Dec 2011**
VISITING FACULTY

- Taught Graduate Courses in Computer Science. Initiated a Project on Development of Opportunistic Grids for HPC.

B.M.S. Institute of Technology, India **Jan - Dec 2009**
FACULTY OF ENGINEERING

- Taught Undergraduate Courses in Communication Engineering.
- Actively involved with FOSS/LUG to promote Open Source Software for Solving Engineering Problems.

R.V. College of Engineering, India **Aug 2007 - Jun 2008**
FACULTY OF ENGINEERING

- Taught Graduate & Undergraduate Courses in Telecommunications Engineering.

Indian Space Research Organization (ISRO), India **Aug 2006 - Jun 2007**

RESEARCH INTERN, U R RAO SATELLITE CENTRE (URSC) (FORMERLY ISAC)

- Worked on Design/Development of Architectures, Protocols & Testbeds for Interplanetary Communication Systems at the Digital Systems Group of Telecommand Division.

6 Funding Record

6.1 External Grants (Federal Agencies)

6.1.1 As Principal Investigator (PI)

- G1 NSF I-Corps Hub: Great Lakes Region - Winter 2023 STEM Jumpstart I-Corps Program; *Sponsor: National Science Foundation (NSF); Investigator(s): Nadig, D (PI); External Funds: \$1,000; Start: 02/03/2023; End: 03/24/2023; Status: Completed.*

7 Publication Record

(Note that some of my earlier works were published under Deepak Nadig Anantha.)

7.1 Journal Articles

- J1 **D. Nadig**, B. Ramamurthy and B. Bockelman, "SNAG: SDN-Managed Network Architecture for GridFTP Transfers Using Application-Awareness," in *IEEE/ACM Transactions on Networking*, doi: [10.1109/TNET.2022.3150000](https://doi.org/10.1109/TNET.2022.3150000), (Impact Factor: 3.796).
- J2 M. Alhowaidi, **D. Nadig**, B. Hu, B. Ramamurthy and B. Bockelman, "Cache Management for Large Data Transfers and Multipath Forwarding Strategies in Named Data Networking," *Computer Networks*, Volume 199, 2021, ISSN 1389-1286, [10.1016/j.comnet.2021.108437](https://doi.org/10.1016/j.comnet.2021.108437), (Impact Factor: 5.6).

7.2 Conference Proceedings (Peer-Reviewed)

- C1 A. Shridhar and **D. Nadig**, "Heuristic-based Resource Allocation for Cloud-native Machine Learning Workloads," *2022 IEEE International Conference on Advanced Networks and Telecommunications Systems (ANTS)*, Gandhinagar, Gujarat, India, 2022, pp. 415-418, doi: [10.1109/ANTS56424.2022.10227727](https://doi.org/10.1109/ANTS56424.2022.10227727).

- C2 B. Hu, **D. Nadig** and B. Ramamurthy, "Improving Service Performance through Multilayer Routing and Service Intelligence in a Network Service Mesh," *2021 IEEE International Conference on Advanced Networks and Telecommunications Systems (ANTS)*, 2021, pp. 420-425, doi: [10.1109/ANTS52808.2021.9936995](https://doi.org/10.1109/ANTS52808.2021.9936995).
- C3 **D. Nadig**, S. El Alaoui, B. Ramamurthy and S. Pitla, "ERGO: A Scalable Edge Computing Architecture for Infrastructureless Agricultural Internet of Things," *2021 IEEE International Symposium on Local and Metropolitan Area Networks (LANMAN)*, 2021, pp. 1-2, doi: [10.1109/LANMAN52105.2021.9478811](https://doi.org/10.1109/LANMAN52105.2021.9478811).
- C4 M. Alhowaidi, **D. Nadig**, and B. Ramamurthy, "Cache Management for Large Data Transfers in Named Data Networking using SDN," *2019 IEEE International Conference on Advanced Networks and Telecommunications Systems (ANTS)*, Goa, India, 2019, pp. 1-4, doi: [10.1109/ANTS47819.2019.9118137](https://doi.org/10.1109/ANTS47819.2019.9118137).
- C5 S. Nayak, **D. Nadig** and B. Ramamurthy, "Analyzing Malicious URLs using a Threat Intelligence System," *2019 IEEE International Conference on Advanced Networks and Telecommunications Systems (ANTS)*, Goa, India, 2019, pp. 1-4, doi: [10.1109/ANTS47819.2019.9118051](https://doi.org/10.1109/ANTS47819.2019.9118051).
- C6 **D. Nadig**, B. Ramamurthy, B. Bockelman, and D. Swanson, "APRIL: An Application-Aware, Predictive and Intelligent Load Balancing Solution for Data-Intensive Science," in *IEEE INFOCOM 2019 - IEEE Conference on Computer Communications*, Apr. 2019, pp. 1909-1917, doi: [10.1109/INFOCOM.2019.8737537](https://doi.org/10.1109/INFOCOM.2019.8737537).
- C7 **D. Nadig**, B. Ramamurthy, B. Bockelman, and D. Swanson, "Large Data Transfer Predictability and Forecasting using Application-Aware SDN," in *2018 IEEE International Conference on Advanced Networks and Telecommunications Systems (ANTS)*, Dec. 2018, pp. 1-6, doi: [10.1109/ANTS.2018.8710165](https://doi.org/10.1109/ANTS.2018.8710165).
- C8 **D. Nadig**, E. Jung, R. Kettimuthu, I. Foster, S. V. N. Rao, and B. Ramamurthy, "Comparative Performance Evaluation of High-performance Data Transfer Tools," in *2018 IEEE International Conference on Advanced Networks and Telecommunications Systems (ANTS)*, Dec. 2018, pp. 1-6, doi: [10.1109/ANTS.2018.8710071](https://doi.org/10.1109/ANTS.2018.8710071).
- C9 M. Alhowaidi, **D. Nadig**, B. Ramamurthy, B. Bockelman, and D. Swanson, "Multipath Forwarding Strategies and SDN Control for Named Data Networking," in *2018 IEEE International Conference on Advanced Networks and Telecommunications Systems (ANTS)*, Dec. 2018, pp. 1-6, doi: [10.1109/ANTS.2018.8710068](https://doi.org/10.1109/ANTS.2018.8710068).
- C10 **D. Nadig**, B. Ramamurthy, B. Bockelman, and D. Swanson, "Optimized Service Chain Mapping and reduced flow processing with Application-Awareness," in *2018 4th IEEE Conference on Network Softwarization and Workshops (NetSoft)*, Jun. 2018, pp. 303-307, doi: [10.1109/NETSOFT.2018.8459912](https://doi.org/10.1109/NETSOFT.2018.8459912).
- C11 **D. Nadig**, B. Ramamurthy, B. Bockelman, and D. Swanson, "Differentiated Network Services for Data-Intensive Science using Application-aware SDN," in *2017 IEEE International Conference on Advanced Networks and Telecommunications Systems (ANTS)*, Dec. 2017, pp. 1-6, doi: [10.1109/ANTS.2017.8384105](https://doi.org/10.1109/ANTS.2017.8384105).
- C12 **D. Nadig**, R. Thareja and N. A. Nikhil, "Performance analysis and evaluation of delay-tolerant network bundling protocol on a scalable virtual network test plat-

form,” 2008 IET International Conference on Wireless, Mobile and Multimedia Networks, Beijing, 2008, pp. 52-55, doi: [10.1049/cp:20080143](https://doi.org/10.1049/cp:20080143).

7.3 Workshops (Peer-Reviewed)

- W₁ M. Lunar, J. Sun, J. Wensowitch, M. Fay, H. Tulay, S. Suman, B. Qiu, **D. Nadig**, et al., “OneLNK: One Link to Rule Them All: Web-based Wireless Experimentation for Multi-vendor Remotely Accessible Indoor/Outdoor Testbeds,” in *Proceedings of the 14th International Workshop on Wireless Network Testbeds, Experimental evaluation & Characterization (WiNTECH’21)*. ACM, New York, NY, USA.
- W₂ **D. Nadig**, Z. Zhang, B. Ramamurthy, B. Bockelman, G. Attebury, and D. Swanson, “SNAG: SDN-managed Network Architecture for GridFTP Transfers,” in *Proceedings of the Third Workshop on Innovating the Network for Data-Intensive Science, INDIS*, 2016, vol. 16.

7.4 Workshops (Invited)

- W₃ **D. Nadig** and B. Ramamurthy, “Securing Large-scale Data Transfers in Campus Networks: Experiences, Issues, and Challenges,” in *Proceedings of the ACM International Workshop on Security in Software Defined Networks & Network Function Virtualization*, New York, NY, USA, 2019, pp. 29–32, doi: [10.1145/3309194.3309444](https://doi.org/10.1145/3309194.3309444).
- W₄ **D. Nadig**, B. Ramamurthy, B. Bockelman, and D. Swanson, “Identifying Anomalies in GridFTP Transfers for Data-Intensive Science Through Application-Awareness,” in *Proceedings of the 2018 ACM International Workshop on Security in Software Defined Networks & Network Function Virtualization*, New York, USA, 2018, pp. 7–12, doi: [10.1145/3180465.3180469](https://doi.org/10.1145/3180465.3180469).
- W₅ **D. Nadig** and B. Ramamurthy, “ScienceSDS: A Novel Software Defined Security Framework for Large-scale Data-intensive Science,” in *Proceedings of the ACM International Workshop on Security in Software Defined Networks & Network Function Virtualization*, New York, NY, USA, 2017, pp. 13–18, doi: [10.1145/3040992.3040999](https://doi.org/10.1145/3040992.3040999).

7.5 Posters

- P₁ K.M. Hasanth and **D. Nadig**, “Optimizing Service Mesh Performance in Cloud-native HPC Environments: A Benchmarking Approach,” in *RCAC Cyberinfrastructure Symposium*, Purdue University, West Lafayette, Indiana, USA, Sep 12, 2023. [Link](#).
- P₂ B. Sharma and **D. Nadig**, “eBPF-based APM and Observability for Cloud-native Infrastructure,” in *24rd Annual CERIAS Security Symposium*, Purdue University, West Lafayette, Indiana, USA, March 28-29, 2023. [Link](#).

- P*₃ J. Petri and **D. Nadig**, “Cloud-native Application Performance Metrics for Resource Monitoring,” in *23rd Annual CERIAS Security Symposium*, Purdue University, West Lafayette, Indiana, USA, March 29-30, 2022. [Link](#).
- P*₄ **D. Nadig**, S. El Alaoui, and B. Ramamurthy, “ERGO: A Scalable Edge Computing Architecture for Ag-IoT,” in *3rd USENIX Workshop on Hot Topics in Edge Computing (HotEdge’20)*, New York, NY, USA, 2020.
- P*₅ **D. Nadig** and B. Ramamurthy, “Securing Data Intensive Science Projects Through Intelligent Networks,” in *2017 Midwest Big Data Hub (MBDH) All-Hands Meeting*, Omaha, USA, Oct 2017.

7.6 Dissertation/Thesis

- 1 **D. Nadig**, “Application-awareness in Softwarized Networks: Building Intelligent Networks through Application and Network-layer Collaboration,” *Doctoral Dissertation*, University of Nebraska-Lincoln, 2021.
- 2 **D. Nadig**, “Design and Deployment of DTN Architectures and Protocols for Interplanetary Communication Systems,” *Master’s Thesis*, RV College of Engineering, Visveswaraya Technological University, India, 2007.

7.7 Technical Reports

- T*₁ **D. Nadig**, “A Study of Jamming in IEEE 802.11e Networks,” Technical Report, Dept. of Electrical Computer Engineering, North Carolina State University, Raleigh, USA, Dec 2008
- T*₂ **D. Nadig**, “Simulation and Analysis of Intersystem Handovers in Mobile WiMax Networks,” Technical Report, Dept. of Electrical Computer Engineering, North Carolina State University, Raleigh, USA, Dec 2008

7.8 Invited Conference and Workshop Presentations

- 1 D. Nadig, “Heuristic-based Resource Allocation for Cloud-native Machine Learning Workloads,” at *2022 IEEE ANTS Conference*, Gandhinagar, India, 2022.
- 2 D. Nadig, “ERGO: A Scalable Edge Computing Architecture for Infrastructureless Agricultural Internet of Things,” at *2021 IEEE LANMAN*, July 2021.
- 3 D. Nadig, “SDN/NFV Solutions for Data-intensive Science at UNL,” at INRIA/LORIA, Nancy, France, April 2019.
- 4 D. Nadig, “Cache Management for Large Data Transfers in Named Data Networking using SDN,” at *2019 IEEE ANTS Conference*, Goa, India, 2019.
- 5 D. Nadig, “Analyzing Malicious URLs using a Threat Intelligence System,” at *2019 IEEE ANTS Conference*, Goa, India, 2019.

- 6 D. Nadig, "APRIL: An Application-Aware, Predictive and Intelligent Load Balancing Solution for Data-Intensive Science," at *IEEE INFOCOM 2019*, Paris, France, April 2019.
- 7 D. Nadig, "Securing Large-scale Data Transfers in Campus Networks: Experiences, Issues, and Challenges," at *ACM SDN-NFV Sec Workshop at ACM CODASPY 2019*, Richardson, Texas, USA, March 2019.
- 8 D. Nadig, "Large Data Transfer Predictability and Forecasting using Application-Aware SDN," in *2018 IEEE ANTS Conference*, December 2018.
- 9 D. Nadig, "Comparative Performance Evaluation of High-performance Data Transfer Tools," in *2018 IEEE ANTS*, December 2018.
- 10 D. Nadig, "Multipath Forwarding Strategies and SDN Control for Named Data Networking," in *2018 IEEE ANTS Conference*, December 2018.
- 11 D. Nadig, "Identifying Anomalies in GridFTP Transfers for Data-Intensive Science Through Application-Awareness," at *ACM SDN-NFV Sec Workshop at ACM CODASPY 2018*, Tempe, Arizona, USA, March 2018.
- 12 D. Nadig, "ScienceSDS: A Novel Software Defined Security Framework for Large-scale Data-intensive Science," at *ACM SDN-NFV Sec Workshop at ACM CODASPY 2017*, Scottsdale, Arizona, USA, March 2017.
- 13 D. Nadig, Z. Zhang, B. Ramamurthy, B. Bockelman, G. Attebury, and D. Swanson, "SNAG: SDN-managed Network Architecture for GridFTP Transfers," in *3rd INDIS Workshop at the 2016 Supercomputing Conference*, Salt Lake City, Utah, USA, November 2016.
- 14 D. Nadig, "Mathematical Modeling of Large Scale Random Networks," In *National Conference on Recent Trends in Network Security & Cryptography*, PES Institute of Technology, India, December 23, 2010.

7.9 Invited Talks and Workshops Conducted

- 1 Invited talk on "Application-Aware Networking and Observability for Cloud-native Infrastructure," *Emerging Topics in Cybersecurity (Infosys Cybersecurity Business Unit)*, Purdue University, West Lafayette, IN, USA, July 6th, 2023.
- 2 Workshop on ns3 Network Simulator, RV College of Engineering, Bangalore, India, July 2–4, 2015.
- 3 Workshop on Network Simulation using ns3, Nitte Meenakshi Institute of Technology, Bangalore, India, June 1–5, 2015.
- 4 Keynote Address, Convocation and Student Forum, *VISHIST-15*, Sambhram Institute of Technology, Bangalore, India, May 8, 2015.
- 5 Invited talk on "Network Simulation and Modeling," SJ College of Engineering, Mysore, India, March 28, 2015.
- 6 Workshop on Next-Generation Network Simulation using ns3, Amrita Vishwa Vidyapeetham, Bangalore, India, February 15, 2015.

- 7 Workshop on ns3 and Computer Networks, Sri Venkateshwara College of Engineering, Bangalore, India, February 6–7, 2015.
- 8 Faculty Development Programme on ns3, Sri Venkateshwara College of Engineering, Bangalore, India, December 1–4, 2014.
- 9 Invited talk on “Tools for Data Science and Analysis,” Dept. of Computer Applications, PES Institute of Technology, Bangalore, India, October 28, 2014.
- 10 Invited talk on “SDN: Trends in Programmable Networks,” Dept. of ECE, Sapthagiri College of Engineering, Bangalore, India, October 17, 2014.
- 11 Invited talk on “Antennas for Next-Generation Network Mobile Radios,” *Antenna Technologies*, Faculty Development Program, TEQIP II, BMS College of Engineering, Bangalore, India, January 27 – February 1, 2014.
- 12 Invited talk on “Simulation of Computer Networks and Systems,” CMR Institute of Technology, Bangalore, India, August 17, 2013.
- 13 Invited talk on “Next Generation Networks: Simulation and Modeling Perspectives,” *Seminar on Understanding Wireless Communication Technologies: 3G, 4G/LTE, WiMAX*, PES Inst. of Technology, Bangalore, India, July 19, 2013.
- 14 Invited talk on “LATEX for Mathematical Publishing,” Faculty of Mathematics and Statistics, Christ University, Bangalore, India, April 27–28, 2012.
- 15 Invited talk on “The Future is Open: OSS in Technology,” *KRITANSH Forum*, Cambridge Institute of Technology, Bangalore, India, April 12, 2012.
- 16 Invited talk on “Wireless Network Architectures: Evolution and Directions,” BMS Institute of Technology, Bangalore, India, October 22, 2011.
- 17 Invited talk on “Wireless Communication Engineering Technologies,” IEEE Student Branch, Dr. Ambedkar Institute of Technology, Bangalore, India, October 1, 2011.

8 Teaching Record

8.1 Courses and Curriculum Development

- Dr. Nadig’s courses in the Department of Computer and Information Technology (CIT) at Purdue University enhance learning by integrating theory and practical aspects of computer networking, computing and network security in the classroom.
- NEW COURSE: *Cloud, Data Center and Carrier Networks (CNIT 62300-013)*; Developed a new graduate course on advances in software-defined, programmable and virtualized networks for cloud, data centers and carrier networks (Spring 2024).
- NEW COURSE: *Introduction to Cloud Infrastructure (CNIT 62300-023)*; Developed a new graduate course on advances in cloud computing and cloud infrastructure (Fall 2023).
- NEW COURSE: *Software Defined Networks (CNIT 48101-21)*; Developed a new undergraduate course on software defined and programmable networks (Spring 2022).

- NEW COURSE: *Cloud Computing Infrastructure (CNIT 48101-19)*; Developed a new undergraduate course on cloud computing infrastructure and cloud-native technologies (Fall 2021).
- Since his arrival at Purdue University in 2021, he has taught the following courses:

Course Code	Course Name	Cr.	Class Size	Term
CNIT 62300-023	Intro to Cloud Infrastructure	03	14	Fall2023 –
CNIT 48101-019	Cloud Computing Infrastructure	03	11 – 18	Fall 2021–2023
CNIT 48101-021	Network Virtualization	03	–	Spr 2023–
CNIT 17600-008	Info. Technology Architectures	03	179 – 280	Fall '22, Spr '23
CNIT 48101-021	Software Defined Networks	03	02	Spr '22

- Dr. Nadig has also offered the following *Special Problems In Computer Technology* (Graduate Independent Study at CIT) courses:

Course Code	Term	Course Name/Topic	Cr.
CNIT 59000-027	Fall 2023	Study of ML for Serverless	03
CNIT 59000-028	Fall 2023	Study of Cloud-native Network Service Mesh	03
CNIT 59000-026	Fall 2022	MLOps For Cloud-Native Systems	03

8.2 Honors Courses

The following course(s) have been offered to include an Honors Contract at Purdue University. More information about Honors Contract Courses is available [here](#).

- CNIT 48101: Cloud Computing Infrastructure (Fall 2021)

8.3 Students

Note: Parenthesis shows the expected year of graduation.

8.3.1 Current Students

Name	Research Area	Degree	Year
Appal Badi	Cloud/Data Observability	D.Tech	(2025)

Name	Research Area	Degree	Year
Ayush Shridhar	Cloud-native MLOps	M.S.	(2024)
Isham Mahajan	Cloud Infrastructure	M.S.	(2024)
Karumuri Meher Hasanth	Network Service Mesh	M.S.	(2024)
Shoaib Basu	Cloud Infrastructure	M.S.	(2025)
Kevin Wesley Kusiak	Cloud Security	B.S.	(2023)
Wooseok Park	Cloud/Data Observability	B.S.	(2025)
Adhvitha Sivaganesh	Network Management	B.S.	(2026)
Samskrithi Sivakumar	Network Applications	B.S.	(2026)
Vinh Pham Ngoc Thanh	Network Management	B.S.	(2026)
Aayush Ganesh Kekade	Cloud Infrastructure	B.S.	(2026)

8.3.2 Past Students

Name	Research Topic	Degree	Organization
Bhavye Sharma	Thesis: <i>Improving Microservices Observability in Cloud-native Infrastructure using eBPF</i>	M.S., 2023	Amazon
Justin Petri	Performance Evaluation	B.S. (2024)	
Aditya Arole	Cloud-native Infrastructure	B.S., 2022	
Li Sean	Cloud-native Infrastructure	B.S., 2022	
Resul Ucar	Cloud-native Infrastructure	B.S., 2022	Palo Alto Networks
Benjamin Wagrez	Cloud-native Infrastructure	B.S., 2021	West Monroe

8.3.3 Supervisory Committee Activities

8.3.3.1 Chair of Supervisory Committee

Name	Assignment	Degree	Year
Shoaib Basu	Chair	M.S.	(2025)
Isham Mahajan	Chair	M.S.	(2024)
Karumuri Meher Hasanth	Chair	M.S.	(2024)
Ayush Shridhar	Chair	M.S.	(2024)

Name	Assignment	Degree	Year
Bhavye Sharma	Chair	M.S.	2023

8.3.3.2 Member of Supervisory Committee

Name	Assignment	Degree	Year
Ogheneotsuko K. Notoma	Member	D.Tech	(2025)
Abhilash G [§]	Member	Ph.D.	(2025)
Arjun Saha	Member	M.S.	(2024)
Erik Gough	Member	Ph.D.	(2024)
Christopher Allenye	Member	D.Tech.	(2024)
Hephzibah Igwe	Member	D.Tech.	(2024)
Chinmay Amul Chhajer	Member	M.S.	(2024)
Avigyan Mukherjee	Member	M.S.	2023

NOTE: § Denotes candidates from other universities and external to Purdue University.

8.3.4 Undergraduate Honors Thesis/Scholarly Project Supervisor

- Benjamin Wagrez (Fall 2021).

9 Professional Certifications

IEEE WCP®

May 2014 – May 2019

IEEE CERTIFIED WIRELESS COMMUNICATIONS PROFESSIONAL

- Demonstrated expertise in Network & Service Architectures; Wireless Technologies; RF & Antenna Engineering; Standards, Policies & Regulations.

10 Service Record

10.1 External Service

10.1.1 Conference Organizing Committees

- **TPC Chair**, 11th International Workshop on Computer and Networking Experimental Research using Testbeds (CNERT), IEEE INFOCOM, 20–23 May 2024, Vancouver, Canada.

- **Tutorials Chair**, 17th IEEE International Conference on Advanced Networks and Telecommunications Systems (ANTS), 17-20 December 2023, Jaipur, India.
- **Publicity Chair**, 16th IEEE International Conference on Advanced Networks and Telecommunications Systems (ANTS), 18-21 December 2022, Gujarat, India.

10.1.2 Technical Program Committee (TPC)

- IEEE INFOCOM 2024 - IEEE Conference on Computer Communications, May 20-23, Vancouver, British Columbia, Canada, 2024.
- 17th IEEE International Conference on Advanced Networks and Telecommunications Systems (ANTS), 17-20 December 2023, Jaipur, India.
- 16th IEEE International Conference on Advanced Networks and Telecommunications Systems (ANTS), 18-21 December 2022, Gujarat, India.
- ADFSL Conference on Digital Forensics, Security and Law, July 25-26, 2022, Virtual Conference.
- 2022 IEEE International Symposium on Local and Metropolitan Area Networks (LANMAN), Posters, Demos and Ph.D. Forum, 11–12 July 2022, Virtual Conference.

10.1.3 Conference Session Chair

- **Session Chair: M-Healthcare and Emergency Communications**, 16th IEEE International Conference on Advanced Networks and Telecommunications Systems (ANTS), 18-21 December 2022, Gujarat, India.
- **Session Chair: Optical Communications and Networks-I**, 16th IEEE International Conference on Advanced Networks and Telecommunications Systems (ANTS), 18-21 December 2022, Gujarat, India.

10.1.4 Reviewer for Journals/Conferences

- IEEE/ACM Transactions on Networking
- IEEE Journal on Selected Areas in Communications (IEEE JSAC)
- Computer Networks
- IEEE International Conference on Computer Communications (INFOCOM) '17, '20, '21 & '24
- IEEE Global Communications Conference (GLOBECOM) '20
- IEEE/ACM International Symposium on Quality of Service (IWQoS) '19
- IEEE International Symposium on Local and Metropolitan Area Networks (LANMAN) '17 & '19
- IEEE Sarnoff Symposium '16.
- IEEE International Conference on Advanced Networks and Telecommunications Systems (ANTS) '22 & '23.

10.1.5 Miscellaneous

- **Member**, 8th Meeting of the Board of Studies (BOS) in Electronics and Communication Engineering, SJ College of Engineering, Mysore, India, 2015.
- **Member**, Entrepreneurship Development Cell (EDC), RV College of Engineering, Bangalore, India, 2007.

10.2 University/College Level Service

- **Judge**, 2022 Spring Undergraduate Research Conference, Purdue University, April 11-18, 2022.
- **Judge**, McNair Summer Research Colloquium, University of Nebraska-Lincoln, USA, July 2018.

10.3 Department Level Service

- **Member**, INET Clinical Faculty Search Committee, Dept. of Computer and Information Technology (CIT), Purdue University, 2021 – 2022.
- **Member**, INET Curriculum sub-committee (CSC), Dept. of Computer and Information Technology (CIT), Purdue University, Fall 2021 – Present.
- **Member**, Faculty Committee, Dept. of Computer Science and Engineering, University of Nebraska-Lincoln, USA, 2020 – 2021.
- **Member**, Cybersecurity Faculty Search Committee, Dept. of Computer Science and Engineering, University of Nebraska-Lincoln, USA, 2019.
- **Vice President**, Computer Science and Engineering Graduate Student Association (GSA), University of Nebraska-Lincoln, USA, 2018 – 2019.

10.4 Professional Memberships and Affiliations

- **Member**, Association of Computing Machinery (ACM).
- **Member**, Institute of Electrical and Electronics Engineers (IEEE), 2011 – Present.
- **Member**, IEEE Communications Society (IEEE ComSoc), 2011 – Present.
- **Member**, IEEE Communication Society Technical Committee on Computer Communications (TCCC), 2022 – Present.
- **Member**, IEEE Computer Society Technical Committee on Cloud Computing (TC-CLD), 2021 – Present.
- **Member**, IEEE Computer Society Technical Committee on Security and Privacy (TCSP), 2021 – Present.
- **Member**, IEEE Computer Society Task Force on Rebooting Computing (TFRC), 2022 – Present.
- **Member**, National Center for Faculty Development and Diversity (NCFDD), 2019 – Present.

- **Member**, IEEE GOLD SIG EXE-COM Professional Activities Group, IEEE Bangalore Section, 2011–2014.
- **Member**, Center for Education and Research in Information Assurance and Security (CERIAS), Purdue University, 2022 – Present.

Last updated on October 28, 2023.