Nakul Garg

Contact Information

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Education

University of Maryland 2019–Present
Ph.D. in Computer Science

Guru Gobind Singh Indraprastha University 2014–2018
Bachelor in Electronics and Communication Engineering

Selected Publications

N. Garg, A. Anand, B. Chagglani, A. Ashok, "Visible Light Communication in Drones," (in submission), 2019.

I. Janveja, **N. Garg**, C. Chawla, J.Parikh. "Aquacomm: Underwater Visible Light Communication," IndiaCom, India, 2018.

N. Garg, I. Janveja, D. Malhotra, C. Chawla, P. Gupta, H. Bansal, A. Chowdhery, P. Mukherjee, and Brejesh Lall. "DRIZY—Collaborative Driver Assistance Over Wireless Networks," **ACM MobiCom** Poster, Utah, USA, 2017.

N. Garg, J.Parikh. "Wireless transceiver design for visible light communication," ICICI, India, 2017.

Filed Patents

N. Garg "Advanced IoT based Home Automation System without Rewiring", 2016. Intellectual Property India Serial No. 201711020040

Experience

Research Assistant Sept. 2018—July 2019
Department of Computer Science, IIT Delhi
Advised by :, Dr. Rijurekha Sen

Technical Advisor May 2018—Sept. 2018
Celestini Project India, Marconi Society, Google, IIT Delhi
Led by :, Dr. Aakanksha Chowdhery (Google AI) and Dr. Brejesh Lall (IIT Delhi)

Project Intern Jun. 2017—Sept. 2017
Celestini Project India, Marconi Society, Google, IIT Delhi
Led by :, Dr. Aakanksha Chowdhery (Google AI) and Dr. Brejesh Lall (IIT Delhi)

Technical Executive Aug. 2016—Jul. 2017
Robotime Robotics Lab (STEM in schools)

Trainee Sept. 2015—May 2016
Embedded Systems, IQB Solutions, Delhi

Positions of Responsibility

Chairperson BVP IEEE Student Branch 2017–2018
- Led a team of 200 students to organize one of the biggest technical hackathon in Delhi, India.

Vice–Chair of Robotics Society, BVCOE 2016–2017
- Conducted workshops across India to teach programming concepts on Arduino/Raspberry, Image Processing and Project Management to 200+ students.

Head Event–Manager, Fervour - Technical Fest of college. 2017
- Organized 17 technical events in campus with an outreach of 1000+ students in India.

Awards and Scholarships

- University of Maryland Graduate School Dean's Fellowship 2019
- Outstanding Student Volunteer Award by IEEE Delhi Section. 2018
- First position at **EV Hackathon**, India - Australia joint initiative. 2018

- Winner of World Food India Hackathon. Awarded by **President of India**. 2017
- Winner of Celestini Project India 2017, IIT Delhi and Marconi Society. 2017
- Travel grants: NSF for Mobicom 2017, **ACM SIGMOBILE** 2017
- 1st in **eYantra - National Robotics Competition**, **IIT Bombay** 2017
- 2nd in **eYantra - National Robotics Competition**, **IIT Bombay** 2016
- Ranked 44 in **IEEE XTreme Hackathon** 2015
- 1st in Robotron TechMarathon, DDUC, Delhi University 2014
- Among top 6 in **National CBSE Science Exhibition** 2013
- 4th in **International Quanta**, CMS School, Lucknow 2013
- 1st in **Regional level CBSE Science Exhibition** 2012
- 1st in Annual School Science Exhibition 2011
- 1st in Annual School Science Exhibition 2010
- 2nd in Annual School Science Exhibition 2009

Technical Projects

- **"Aerogram"** Particualte Matter Sensor Network in 200 Buses across Delhi. 2019
- **"Near Sensor ML"** Reducing latency by bringing ML at edge. 2018
- **"PlugFree"** Autonomous charging of Drones. (Sponsored by GSU, USA) 2018
- **"Augur"** Visible Light Communication using Smartphone Camera 2018
- **"DRIZY"** Collaborative Driver Assistance Over Wireless Networks 2017
- **Li-Fi** (Data transfer through light) Demonstration 2017
- **"PUSHPAK"** Aerial Surveillance Quadcopter with Rover 2016
- **Touch–Screen** Based Home Automation 2016
- **IOT** based Temperature Logger with Remote Access 2016
- **FireBird V Robot** – Mars Rover Navigation and 3D Modelling 2016
- Raspberry pi-3 based Personal **Cloud Storage** 2015
- Anti Car Theft System with SMS alert application 2014
- **Zig–Bee** based Swarm Robotics 2014
- Automatic Rubiks Cube Solver 2014
- **Wireless Odometer** 2012

Research Interests

Mobile Computing, Robotics, Sensing, Computer Vision

Skills and Tools

Languages : C/C++, Python, MATLAB, OpenCV, LaTeX, Verilog
Technologies : Arduino, Raspberry Pi, Deep Learning, Computer Vision

Society Memberships

Institute of Electrical and Electronics Engineers (IEEE)
Association for Computing Machinery (ACM)