Rajashekar Reddy Chinthalapani

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🔗 rez39.github.io ⬡ github.com/rez39 🎓 C Rajashekar Reddy

Education

National University of Singapore, Singapore   **Aug 2023 - 2027 (expected)**
Ph.D. Computer Science   *Current GPA: 4.38/5*
Advisor: Dr. Ambuj Varshney

IIIT Hyderabad, India   **Graduated Dec 2021**
B.Tech and M.S by Research Dual Degree in Electronics and Communication Engineering   *8.35/10*
Advisor: Dr. Sachin Chaudhari
MS Thesis: IoT-based Air Pollution Monitoring: Algorithms and Implementation

Industry Experience

Texas Instruments   **July 2022 - July 2023**
Digital Design Engineer - Physical Design   *Bengaluru, India*
- Worked in the SITARA physical design team for two products AM263P and AM261, both in 45nm technology
- Handled end-to-end Synthesis and STA for top-level and 2 subchip-level blocks

Becurie, Innopark   **Nov 2021 - Jan 2022**
Embedded Firmware Programmer Intern   *Hyderabad, India*
- Worked on smart wearable device that generates variable complex weak magnetic fields that could have therapeutic benefits providing neuro-stimulation and neuro-feedback

Research Experience

Nokia Bell Labs, Cambridge   **May 2024 - Aug 2024**
Research Intern in Pervasive Systems Group   *Cambridge, UK*
- Designed a battery-free body patch using sparse sampling algorithms to enable perpetual vital signs monitoring
- Hosts: Ashok Thangarajan, Alessandro Montanari

NCBL - University of Alberta, Canada   **July 2021 - Oct 2021**
Globalink Research Intern   *Remote*
- Implemented daily activity monitoring using wearable technologies for outcome evaluation of clinical treatments
- Host: Hossein Rouhani

Selected Publications

- Full List: https://scholar.google.com/citations?user=68eqQUsAAAAJ&hl=en

- AudioCast: Enabling Ubiquitous Connectivity for Embedded Systems through Audio-Broadcasting Low-power Tags.
  C. Rajashekar Reddy*, D. Shah*, N. Ang, A. Varshney. **IMWUT 2025**

- Unraveling the Missing Link in Low-power Communication: An Autodyning Receiver Architecture that Achieves a Long Range.
  Pramuka Medaranga, C. Rajashekar Reddy, W. Yan, P. Dutta, A. Varshney. **ACM MobiSys 2025**

- BioPulse: Towards Enabling Perpetual Vital Signs Monitoring using a Body Patch.
  C. Rajashekar Reddy, V. Dsouza, A. Thangarajan, P. Pawełczak, F. Kawsar, A. Montanari. **ACM HotMobile 2025**

- TunnelSense: Low-power, Non-Contact Sensing using Tunnel Diodes.
  L. C. Q Thaddeus*, C. Rajashekar Reddy*, Y.S. Bhadauria, D. Shah, M. Gulati, A. Varshney. **IEEE RFID 2024**

- Beyond Broadcasting: Revisiting FM Frequency-band for Providing Connectivity to Next Billion Devices.
  C. Rajashekar Reddy, M. Gulati, A. Varshney. **ENSsys 2023 (Co-located with ACM SenSys 2023)**

- The Emergence of WIRELESS: Interdomain Relays for Extending Low-Power Embedded Sensor Systems.
  M. Gulati*, P. Medaranga*, C. Rajashekar Reddy*, A. Varshney. Under review

Posters & Demos

- Demo: Enabling Ubiquitous Connectivity for Embedded Systems through Audio-Broadcasting Low-power Tags.
  C. Rajashekar Reddy*, D. Shah*, A. Varshney. **ACM MobiSys 2025**

- Towards Enabling Perpetual Vital Signs Monitoring using a Body Patch.
  C. Rajashekar Reddy, V. Dsouza, A. Thangarajan, P. Pawełczak, F. Kawsar, A. Montanari. **ACM HotMobile 2025**

- Poster Abstract: Enabling Non-contact, Low-Power Sensing using Tunnel Diodes.
  L. C. Q. Thaddeus*, Y. S. Bhadauria*, C. Rajashekar Reddy*, et.al. **ACM/IEEE IPSN 2024**

- GateHaul: A Gateway Architecture using Backhauling to Address Connectivity Challenges of Embedded Systems.
  S. Sara, M. Shah, D. Shah, C. Rajashekar Reddy, et.al. **ACM Mobicom 2024**

Honors and Awards

- **Student Travel Grant** to attend the ACM HotMobile 2025
- **NUS Research Scholarship** for pursuing PhD at NUS
- **Top 8** position in "Venture with Air" Hackathon held by The University of Helsinki and Slush
- **Research List** award for the Academic year 2019-2020 and 2020-2021
- **Dean's List** for the Semester Spring 2020
- **Merit List** for the Academic year 2020-2021
- **Research Scholarship for Excellence** for the year 2021

Technical Service

- ACM IMWUT 2025 External Reviewer
- ACM SenSys 2024 Artifact Evaluation
- ACM HumanSys 2024 Technical Program Committee

Teaching Experience

Teaching Assistant for Wireless Networking	NUS, Spring-2024, 2025
Teaching Assistant for Embedded Systems Workshop	IIIT-H, Monsoon-2019,2021
Teaching Assistant for Introduction to Internet of Things	IIIT-H, Spring-2019
Mentor for IoT and Smart Analytics PG Certificate	TalentSprint, 2021-2022

Technical Skills

Languages: Python, C/C++, Verilog, Tcl/Tk, Shell, System Verilog
Tools, Frameworks and Libraries: Cadence Genus, Conformal Equivalency Checker, Cadence Tempus, Keras, scikit-learn, Github, OpenCV, Cadence Virtuoso, NI Multisim, QGIS, Arduino, Xilinx Vivado