

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: 4.5/5

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>
- HILO: Enabling Low-power, Dual-Band Communication using Tunnel Diode Oscillators
C. Rajashekar Reddy*, D. Shah*, P. Medaranga, A. Varshney. **IEEE RFID 2026**
- Microwatt Microwave (M²) Oscillator: Going Beyond the Delegation Architecture of Low-power Wireless Communication
P. Medaranga, D. Shah, C. Rajashekar Reddy, S.Sara, P.Dutta, A. Varshney. **ACM MobiSys 2026**
- AudioCast: Enabling Ubiquitous Connectivity for Embedded Systems through Audio-Broadcasting Low-power Tags.
C. Rajashekar Reddy*, D. Shah*, N. Ang, A. Varshney. **ACM IMWUT 2025**
- BioPulse: Towards Enabling Perpetual Vital Signs Monitoring using a Body Patch.
C. Rajashekar Reddy, V. Dsouza, A. Thangarajan, P. Pawelczak, F. Kawsar, A. Montanari. **ACM HotMobile 2025**
- Unraveling the Missing Link in Low-power Communication: An Autodyning Receiver Architecture that Achieves a Long Range.
P. Medaranga, C. Rajashekar Reddy, W. Yan, P. Dutta, A. Varshney. **ACM MobiSys 2025**

- TunnelSense: Low-power, Non-Contact Sensing using Tunnel Diodes.
C. Rajashekar Reddy*, L. C. Q. Thaddeus*, 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)**

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. Pawelczak, F. Kawsar, A. Montanari. **ACM HotMobile 2025**
- Poster Abstract: Enabling Non-contact, Low-Power Sensing using Tunnel Diodes.
C. Rajashekar Reddy*, L. C. Q. Thaddeus*, Y. S. Bhadauria*, 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

- **NUS Research Achievement award** for the year 2025
- **Rising Star** at the ACM MobiSys 2025
- **Student Travel Grant** to attend the ACM MobiSys 2025
- **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 2026 External Reviewer
- ACM IMWUT 2025 External Reviewer
- ACM SenSys 2024 Artifact Evaluation
- ACM HumanSys 2024 Technical Program Committee

Teaching Experience

Mentor for Odyssey Summer Research Program	NUS, Summer-2025
Teaching Assistant for Wireless Networking	NUS, Spring-2024, 2025, 2026
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