Ramesh Krishnan S. **Pallavoor**

Software Engineer

Google, Sunnyvale, CA, USA

rameshkp@google.com | rameshkpallavoor.githib.io | ramesh-k-p

Work Experience

Google — *Sunnyvale, CA*

Software Engineer III — *Sep. 2020 - PRESENT*

Product Area: Core Data Processing

Google — *Sunnyvale, CA*

Software Engineering Intern — *May 2019 - Aug. 2019*

- Mentor: Dr. Chinmoy Mandayam
- Project: Improve Differential Privacy usability in Warp:Flow Language.

Simons Institute for Theory of Computing — *Berkeley, CA*

Visiting Student Researcher — *Jan. 2019 - May 2019*

- Long term participant in Data Privacy: Foundations and Applications program.

Staples — *Framingham, MA*

Data Science Engineer (Intern) — *May 2018 - Aug. 2018*

- Worked with the Data Science team on some Optimization problems in Transportation.

Max Planck Institute for Informatics — *Saarbrücken, Germany*

Research Intern, Department of Algorithms and Complexity — *May 2013 - Jul. 2013*

- Supervisor: Dr. Jens M. Schmidt
- Worked on problems in vertex connectivity of Graphs.
- Funded under WISE (Working Internships in Science and Engineering) 2013 scholarship program of DAAD (German Academic Exchange Service).

Cavintek Pvt. Ltd. — *Chennai, India*

Software Developer Intern — *May 2012 - Aug. 2012*

- Developed an image processing application (in C++, using OpenCV libraries) that simulates trying on jewelry.

Education

Boston University — *Boston, MA, USA*

Ph.D. in Computer Science — *Sep. 2017 - Aug. 2020*

- **Thesis title: Improved Algorithms and New Models in Property Testing**
- **Advisor:** Dr. Sofya Raskhodnikova
- Recipient of 2019/20 Boston University Computer Science Department's **Research Excellence** Award.
- CGPA:3.98/4

The Pennsylvania State University (Penn State) — *University Park, PA, USA*

Ph.D. Candidate in Computer Science and Engineering (Transferred) — *Aug. 2014 - Aug. 2017*

- **Advisor:** Dr. Sofya Raskhodnikova
- CGPA:3.82/4
- Transferred to Boston University in September 2017.

Indian Institute of Information Technology, Design and Manufacturing (IIITD&M), Kancheepuram — *Chennai, India*

B.Tech in Computer Engineering — *Aug. 2010 - Jun. 2014*

- CGPA: 9.71/10 (First in the institute).
- Thesis: Search Perspective of Data Mining-Genetic Algorithms in Longest Frequent Itemset Mining.
- Thesis advisor: Dr. B. Sivaselvan.
- Recipient of the IIITD&M's **Best Project** Award.

Research Interests

Sublinear Algorithms for Large Datasets, Differential Privacy, Approximation Algorithms, Graph Algorithms.

Publications

Journal Articles

1. **Erasure-Resilient Sublinear-Time Graph Algorithms.**
   Amit Levi, *Ramesh Krishnan S. Pallavoor*, Sofya Raskhodnikova, Nithin Varma.
   Accepted to ACM Transactions on Computation Theory (TOCT).
2. **Approximating the Distance to Monotonicity of Boolean Functions.**
   Ramesh Krishnan S. Pallavoor, Sofya Raskhodnikova, Erik Waingarten.
   Random Structures & Algorithms (RSA), 1-28, 2021.
3. **Optimal Unateness Testers for Real-Valued Functions: Adaptivity Helps.**
   Roksana Baleshzar, Deeparnab Chakrabarty, *Ramesh Krishnan S. Pallavoor*, Sofya Raskhodnikova, C. Seshadhri.
   Theory of Computing, 16(3): 1-36, 2020.
4. **Parameterized Property Testing of Functions.**
   Ramesh Krishnan S. Pallavoor, Sofya Raskhodnikova, Nithin Varma.
   ACM Transactions on Computation Theory (TOCT), 9(4): 17:1-17:19, 2018.

Conference Papers

1. **Erasure-Resilient Sublinear-Time Graph Algorithms.**
   Amit Levi, *Ramesh Krishnan S. Pallavoor*, Sofya Raskhodnikova, Nithin Varma.
   Innovations in Theoretical Computer Science (ITCS), 80:1-80:20, 2021.
2. **Approximating the Distance to Monotonicity of Boolean Functions.**
   Ramesh Krishnan S. Pallavoor, Sofya Raskhodnikova, Erik Waingarten.
   ACM-SIAM Symposium on Discrete Algorithms (SODA), 1995-2009, 2020.
3. **Optimal Unateness Testers for Real-Valued Functions: Adaptivity Helps.**
   Roksana Baleshzar, Deeparnab Chakrabarty, *Ramesh Krishnan S. Pallavoor*, Sofya Raskhodnikova, C. Seshadhri.
   International Colloquium on Automata, Languages, and Programming (ICALP), 5:1-5:14, 2017.
4. **Parameterized Property Testing of Functions.**
   Ramesh Krishnan S. Pallavoor, Sofya Raskhodnikova, Nithin Varma.
   Innovations in Theoretical Computer Science (ITCS), 12:1-12:17, 2017.

Manuscripts

1. **A Lower Bound for Nonadaptive, One-Sided Error Testing of Unateness of Boolean Functions over the Hypercube**
   Roksana Baleshzar, Deeparnab Chakrabarty, *Ramesh Krishnan S. Pallavoor*, Sofya Raskhodnikova, C. Seshadhri.
   Electronic Colloquium on Computational Complexity (ECCC), 24:111, 2017.
2. **Testing Unateness of Real-Valued Functions**
   Roksana Baleshzar, Meiram Murzabulatov, *Ramesh Krishnan S. Pallavoor*, Sofya Raskhodnikova.
   CoRR, abs/1608.07652, 2016.

Computer Software and Skills

Proficient: C, C++, Python, MATLAB, R
Intermediate: Tensorflow library for Python, MySQL, Verilog, 8086 Assembly, Perl, OpenCV library for C++, Flask library for Python
Basic: PHP, HTML, Java, Javascript

Achievements

- Recipient of Boston University Computer Science Department's *2019/20 Research Excellence Award*.
- Received conference travel grant to attend Computational Complexity Conference (CCC) 2017 at Riga, Latvia.
- Received *Best Project Award* from IIITD&M for B. Tech Thesis.
- Ranked 42 out of approximately 159000 applicants (99.97 percentile) in India in the Computer Science stream of Graduate Aptitude Test in Engineering(GATE) 2014.
- Secured ranks of 6523 in IIT-JEE and 5171 in AIEEE in 2010 (out of approximately 1 million applicants).
- Ranked second at the national level in Indian Cyber Olympiads, 2006 and 2007.

Conferences and Workshops

As a Presenter

- Workshop on Local Algorithms (WoLA) 2018, MIT, Cambridge, MA, USA.
- International Colloquium on Automata, Languages, and Programming (ICALP) 2017, Warsaw, Poland.
- Innovations in Theoretical Computer Science (ITCS) 2017, Berkeley, CA, USA.

As an Attendee

- ACM Symposium on Theory of Computing (STOC) 2020, Virtual conference.
- Data Privacy: Foundations and Applications program (2019), Simons Institute, Berkeley, CA, USA
- Computational Complexity Conference (CCC) 2017, Latvia, Riga.
- Four Facets of Differential Privacy (2016), IAS, Princeton, NJ, USA.
- Swedish Summer School in Computer Science 2016, Stockholm, Sweden.
- DIMACS workshop on Big Data through the lens of Sublinear Algorithms 2015, New Brunswick, NJ, USA.
- MIT Sublinear Day 2015, Cambridge, MA, USA.
- IEEE Symposium on Foundations of Computer Science (FOCS) 2014, Philadelphia, PA, USA.
- National Workshop on Graph Colorings (NWGC-2013), Chennai, India.

Professional Services

- Journal reviewer: Transaction on Computation Theory (TOCT), 2020.
- Conference reviewer: RANDOM (2019, 2021), SODA (2021), STOC (2016, 2020), KDD (2019), ITCS (2019), FOCS (2017), WABI (2015).
- Technical host for TCS Women Spotlight Workshop, a part of the STOC 2020 conference.
- Organized the Algorithms and Theory seminar at Boston University for the academic year 2019/2020.
- Webmaster for Algorithms and Theory group at Boston University for the academic year 2019/2020.

Teaching Experience

Fall 2019	**Teaching Fellow**, Theory of Computation	*Boston University*
Fall 2018	**Teaching Fellow**, Theory of Computation	*Boston University*
Fall 2017	**Teaching Fellow**, Theory of Computation	*Boston University*
Spring 2017	**Teaching Assistant**, Data Stuctures and Algorithms	*Penn State*
Fall 2014	**Teaching Assistant**, Computer Organization and Design	*Penn State*

Graduate Coursework

Machine Learning, Adaptive Data Analysis, Approximation Algorithms, Probabilistic Algorithms, Graphs with Bounded Widths, Cryptography, Computational Complexity, Sublinear Algorithms, Mathematical Neuroscience, Operating Systems, Data Privacy, Quantum Computation, Algorithms and Data Structures in Bioinformatics, Design and Analysis of Algorithms, Introduction to Theory of Computation.