

# Aneesh Raman

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## Education

<b>Boston University</b> , PhD in Computer Science – Boston, MA, USA	Jan 2025
<ul style="list-style-type: none"> <li>Working on Harnessing the Untapped Benefits of Near-Sortedness for Indexing Data Structures</li> <li>Advisor: Manos Athanassoulis</li> </ul>	
<b>Boston University</b> , MS in Computer Science – Boston, MA, USA	Sept 2019 – Jan 2021
<b>Purdue University Fort Wayne</b> , BS in Computer Science – Fort Wayne, IN, USA	Aug 2015 – May 2019
<ul style="list-style-type: none"> <li>GPA: 3.98/4.0, Graduated with Highest Distinction</li> </ul>	

## Experience

<b>Research Intern, Data Systems Group</b> , Microsoft Research – Redmond, WA, USA	May 2024 – Aug 2024
<ul style="list-style-type: none"> <li>Worked on Stream Data Structures in <u>Garnet</u></li> <li>Mentor: <u>Badrish Chandramouli</u></li> </ul>	
<b>Student Researcher, Systems Research@Google</b> , Google – Sunnyvale, CA, USA	Sept 2023 – Dec 2023
<b>Research Intern, Systems Research@Google</b> , Google – Sunnyvale, CA, USA	May 2023 – Sept 2023
<ul style="list-style-type: none"> <li>Explored Adaptive Query Processing in AlloyDB</li> <li>Mentor: <u>Fatma Ozcan</u></li> </ul>	

## Scholarships and Awards

<b>NSF Travel Grant for VLDB Travel Support 2022</b>	Aug 2022
<b>Outstanding Teaching Fellow at Graduate School of Arts and Sciences</b>	May 2022
<b>Departmental Partial Tution Scholarship, Computer Science, BU</b>	Sept 2019
<b>Sushil K Usman Endowed Scholarship, Purdue University Fort Wayne</b>	Aug 2016 – May 2019
<b>Chancellor's Merit Scholarship, Purdue University Fort Wayne</b>	Aug 2015 – May 2019

## Publications

<b>QuIT your B+-tree for the Quick Insertion Tree</b>	2025
<i>Aneesh Raman</i> , Konstantinos Karatsenidis, Shaolin Xie, Matthaïos Olma, Subhadeep Sarkar, Manos Athanassoulis Proceedings of the International Conference on Extending Database Technology (EDBT)	
<b>Benchmarking Learned and LSM Indexes for Data Sortedness</b>	2024
<i>Aneesh Raman</i> , Andy Huynh, Jinqi Lu, Manos Athanassoulis Proceedings of the Workshop on Testing Database Systems (DBTest)	
<b>Indexing For Near-Sorted Data</b>	2023
<i>Aneesh Raman</i> , Subhadeep Sarkar, Matthaïos Olma, Manos Athanassoulis Proceedings of the International Conference on Data Engineering (ICDE)	
<b>BoDS - A Benchmark on Data Sortedness</b>	2022
<i>Aneesh Raman</i> , Konstantinos Karatsenidis, Subhadeep Sarkar, Manos Athanassoulis Proceedings of the TPC Technology Conference on Performance Evaluation and Benchmarking (TPCTC)	
<b>LSM Tree Under (Memory) Pressure</b>	2022
Ju Hyoungh Mun, Zichen Zhu, <i>Aneesh Raman</i> , Manos Athanassoulis Proceedings of the International Workshop on Accelerating Data Management Systems Using Modern Processor and Storage Architectures (ADMS)	

## Reducing Bloom Filter CPU Overhead in LSM-Trees on Modern Storage Devices

2021

Zichen Zhu, Ju Hyoung Mun, *Aneesh Raman*, Manos Athanassoulis

Proceedings of the International Workshop on Data Management on New Hardware (DaMoN)

## Technologies

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**Programming Languages:** C, C++, C# (.NET), Java, Python, PHP, JavaScript, Node.js

**Databases:** PostgreSQL, MySQL, RocksDB, MongoDB

**Machine Learning:** TensorFlow, Pytorch, Keras

## Poster Presentations (selected)

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- Benchmarking Learned and LSM Indexes for Data Sortedness, North East Database Day 2024
- Sortedness-Aware Indexing, North East Database Day 2024

## Research Talks

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**Indexing for Near-Sorted Data (Invited Talk) – Brandeis University, Waltham, MA** Nov 2024

**Benchmarking Learned and LSM Indexes for Data Sortedness (DBTest 2024) – Santiago, Chile** June 2024

**Indexing for Near-Sorted Data (ICDE 2023) – Anaheim, CA** Apr 2023

**BoDS - A benchmark on Data Sortedness (TPCTC 2022) – Sydney, Australia** Sept 2022

## Teaching Experience

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- CS660 (Graduate Introduction to Databases) - Fall '24, Fall '23, Fall '22
- CS210 (Computer Systems) - Spring '24
- CS561 (Data Systems Architectures) - Spring '22, Spring '21
- CS460 (Introduction to Database Systems) - Fall '21

## Professional Services

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- Reviewer at IEEE BigData 2024
- Reviewer at CIKM 2024
- Availability Reviewer at SIGMOD 2022

## Mentoring Experience (Selected)

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**Junsun (Lucas) Yoon (Graduate Student @ BU)** Sept 2024 – present  
Benchmarking indexing designs for data sortedness.

**Suhruth Vuppala (Undergraduate Student @ BU)** Sept 2024 – present  
Extending functionality of the Benchmark on Data Sortedness.

**Can Gokmen (Undergraduate Student @ BU)** Sept 2024 – present  
Demonstration for VLDB on Sortedness-Aware Indexing Designs.

**Jinqi Lu (Graduate Student @ BU; now PhD Student @ Johns Hopkins University)** Feb 2024 – May 2024  
Benchmarking Learned and LSM Indexes for Data Sortedness.

**Shaolin Xie (Graduate student @ BU; now PhD Student @ USC)** Feb 2022 – May 2024  
Research on a new sortedness-aware index design without any query overhead.

**Konstantinos Karatsenidis (PhD Student @ BU)** June 2022 – Dec 2023  
Research on the Benchmark on data sortedness and exploring sortedness-aware index designs.