

Sai Anuroop Kesanapalli

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EDUCATION

M.S., University of Southern California

Major: Computer Science

August 2022 - May 2024 (Exp.)

CGPA: 3.5/4

B. Tech., Indian Institute of Technology Dharwad

Major: Computer Science and Engineering

July 2017 - June 2021

CPI: 8.86/10

INTERESTS

Federated Learning, Statistical Machine Learning, Edge-Computing, Edge-Accelerator Performance Characterization, Distributed and Stochastic Optimization.

PUBLICATIONS

1. Prashanthi S. K, **Sai Anuroop Kesanapalli**, and Yogesh Simmhan. "Characterizing the Performance of Accelerated Jetson Edge Devices for Training Deep Learning Models". In: *Proc. ACM Meas. Anal. Comput. Syst.* 6, 3, Article 44 (December 2022). 2022. doi: [10.1145/3570604](#).
2. Prashanthi S. K, Aakash Khochare, **Sai Anuroop Kesanapalli**, Rahul Bhope, and Yogesh Simmhan. "Don't Miss the Train: A Case for Systems Research into Training on the Edge". In: *2022 IEEE International Parallel and Distributed Processing Symposium Workshops (IPDPSW)*. 2022, pp. 985–986. doi: [10.1109/IPDPSW55747.2022.00157](#).
3. Prashanthi S. K, **Sai Anuroop Kesanapalli**, Aakash Khochare, and Yogesh Simmhan. "Characterizing the Performance of Deep Learning Workloads on Accelerated Edge Computing Devices". In: *28th IEEE International Conference on High Performance Computing, Data & Analytics Student Research Symposium (HiPC SRS)*. 2021, [Poster].
4. **Sai Anuroop Kesanapalli** and B. N. Bharath. "Federated Algorithm with Bayesian Approach: Omni-Fedge". In: *ICASSP 2021 - 2021 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*. 2021, pp. 3075–3079. doi: [10.1109/ICASSP39728.2021.9413571](#).

RESEARCH EXPERIENCE

RESEARCH ASSISTANT

USC Viterbi, Los Angeles

Advisor: Prof. Vatsal Sharan

March 2023 - Present

Working on code optimization for projects on tensor decomposition methods, and anomaly detection using density-based algorithms.

PROJECT ASSOCIATE - I

IISc Bangalore

Advisor: Prof. Yogesh Simmhan

August 2021 - July 2022

Worked on performance characterization of Nvidia Jetson edge-accelerators on deep learning workloads, and also on a Federated Learning project involving dataset condensation as a subroutine [1, 2, 3].

UNDERGRADUATE RESEARCHER

IIT Dharwad (B. Tech. Project I & II)

Advisor: Prof. B. N. Bharath

August 2020 - June 2021

Worked on Federated Algorithms with Bayesian [4] [Code | Slides] and Exponential Weighted Average [Report | Code] approaches.

SKILLS

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|------------------------------|---|
| Programming Languages | Python, C++, C, Java, Go, Bash |
| Libraries | Flower, PyTorch, TensorFlow, Keras, NumPy, Pandas, Matplotlib, Seaborn, STL |
| Tools | Git, L ^A T _E X |
| OS | Linux, MacOS |

OTHER PROJECTS

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| Heterogeneity-Aware Hashing | [Slides] [Report] [Code] |
| Credit Card Fraud Detection | [Poster] [Report] [Code] |
| Implementation of Immediate Files in Minix OS | [Report] [Code] |
| Buffer Manager for PF Layer of ToyDB | [Report] [Code] |
| Processor Simulator for ToyRISC | [Code] |
| TCP Congestion Control | [Report] [Code] |

STUDENT-OFFICES HELD

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| Mentor , Viterbi Graduate Mentorship Program, USC | 2023 - present |
| Student Coordinator , Institute Innovation Council, IIT Dharwad | 2019 - 2021 |
| Student Mentor , Institute Student Mentorship Programme, IIT Dharwad | 2019 - 2020 |
| Outreach Team Lead , Parsec: A Paradigm Shift, IIT Dharwad's Annual Tech Fest | 2020 |
| Event Coordinator , Development of Industry-Academia Link (DIAL), IIT Dharwad | 2018 |

ACHIEVEMENTS & AWARDS

- 2017 IIT JEE (Advanced) **All India Rank 8682** among 0.16 million candidates.
- 2016 Telangana **State 1st Rank** among around 0.7 million students in first year and under top ten ranks in second year intermediate examinations conducted by TSBIE.
- 2014 Received **Certificate of Merit** from CBSE Delhi, for outstanding performance and for obtaining Grade **A1** in all the five subjects in Secondary School Examination.
- 2014 Recipient of Meritorious Student, School Topper and Star of Stars awards at St. Michael's School, Secunderabad.

LANGUAGES

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|----------------|----------|
| Telugu | Native |
| English | Advanced |
| Hindi | Fluent |
| Kannada | Beginner |

