# Sai Anuroop Kesanapalli

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## EDUCATION

**M.S., University of Southern California** — August 2022 - May 2024 (Exp.)
Major: Computer Science — CGPA: 3.5/4
**B. Tech., Indian Institute of Technology Dharwad** — July 2017 - June 2021
Major: Computer Science and Engineering — 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

**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, LaTeX |
| **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 1$^{st}$ 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 outsanding 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 |