

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

Statistical Machine Learning, Deep Learning Theory, Federated Learning, Stochastic Optimization, Embedded Computing and Edge-GPU Performance Characterization.

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](https://doi.org/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](https://doi.org/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: OmniFedge". In: *ICASSP 2021 - 2021 IEEE International Conference on Acoustics, Speech and Signal Processing (ICASSP)*. 2021, pp. 3075–3079. doi: [10.1109/ICASSP39728.2021.9413571](https://doi.org/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 open source 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

Languages	Python, C++, Bash, HTML
Libraries	PyTorch, TensorFlow, NumPy, Pandas, Matplotlib, CSS
Tools	Git, L ^A T _E X
OS	Linux, Linux4Tegra, MacOS

PROJECTS

Forward-Forward: Is it time to bid adieu to BackProp?	[Slides Code]
Presentation on the Implicit Bias of SGD	[Slides]
Notes on Rethinking Classic Learning Theory in Deep Neural Networks	[Notes]
Store Sales - Time Series Forecasting	[Report Code]
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

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 ~160,000 candidates.
- 2016 Telangana **State 1st Rank** among ~700,000 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.

NATURAL LANGUAGES

Telugu	Native
English	Advanced
Hindi	Fluent
Kannada	Beginner

