

# SAI ANUROOP KESANAPALLI

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## EDUCATION

<b>Master of Science, Computer Science</b> <b>University of Southern California</b>	August 2022 - May 2024 CGPA: 3.85/4.00
<b>Bachelor of Technology, Computer Science and Engineering</b> <b>Indian Institute of Technology Dharwad</b>	August 2017 - June 2021 CPI: 8.86/10.00

## EXPERIENCE

**Performance Analysis Engineer - Core Engineering** September 2024 - Present  
**NetApp Inc.**, Research Triangle Park, NC, USA

**Machine Learning Software Intern** May 2023 - August 2023  
**DeGirum Corp.**, Santa Clara, CA, USA

- Designed an ONNX OCR pipeline with pre/post-processor modules compatible with edge-hardware.
- Created a NumPy-only implementation of forward pass of some vision-based PyTorch operators such as Conv2D, MaxPool, among others, and published as a PyPI package (beaverpy).

**Project Associate - I, DREAM:Lab, Department of Computational & Data Sciences** August 2021 - July 2022  
**Indian Institute of Science**, Bangalore, KA, India

- Co-authored a research project on optimizing performance of deep learning workloads on edge-GPUs [1,3,4], and a review of systems research into training deep learning models on edge hardware [2].
- Developed a comprehensive instrumentation harness that profiled various system and workload parameters such as CPU, GPU and RAM utilization, average and instantaneous power.
- Implemented and automated large-scale training runs of several deep learning models such as ResNet-18, MobileNetV3, and LeNet-5, across 3 classes of Nvidia Jetson devices - AGX, NX, and Nano. The project made significant progress and led to several publications at top venues in less than a year. Received NSF Travel Grant to present [1] at SIGMETRICS @ ACM FCRC 2023 (core A\*) at Orlando, FL.

## 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: SIGMETRICS '23. Orlando, Florida, United States: Association for Computing Machinery, 2023, pp. 37–38. doi: 10.1145/3578338.3593530
2. Prashanthi S. K, Aakash Khochare, Sai Anuroop Kesanapalli, Rahul Bhoje, 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, 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 (2022). doi: 10.1145/3570604.
4. 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].
5. 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.

## HONORS & AWARDS

- (2024) **Gift Award and Travel Grant** worth INR 600,000 and INR 50,000 respectively, by **Tata Education and Development Trust** for studies abroad.
- (2023) **J N Tata Endowment Scholarship** worth INR 900,000 for master's.
- (2023) **NSF Travel Grant** worth USD 1200 for attending SIGMETRICS co-located with ACM FCRC 2023.
- (2020) **AP grade** twice for exceptional performance during B. Tech. at IIT Dharwad.
- (2017) IIT JEE (Advanced) **All India Rank 8682** among ~171,000 candidates.
- (2015) **State Rank 1** among ~700,000 candidates in first year TSBIE Intermediate Public Examination.
- (2014) **Certificate of Merit** from CBSE Delhi for outstanding performance and for obtaining Grade **A1** in all five subjects in Secondary School Examination.