Sriram Sai Ganesh Curriculum Vitae

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Education

2025–2027 **M.S.E. Computer Science**, *Johns Hopkins University*
Human Language Technologies concentration at the Center for Language and Speech Processing (CLSP)

2021–2025 **B.S. Computer Science & Engineering**, *The Ohio State University*, *GPA: 3.78/4.*
Honors Research Distinction, advised by Prof. Srinivasan Parthasarathy at the Data Mining Research Lab.
- *Graduate Coursework:* Machine Learning, Computer Vision, Natural Language Processing (NLP), Adv. Topics in NLP, High-Performance Deep Learning, Fairness in ML, Network Science, Parallel Computing, Algorithms

Publications

ICDM '25 **Crisis Observatory: Extracting Credible Signals During a Crisis in the Age of LLMs,**
Kuan-Chieh Lo*, Pranav Maneriker*, **Sriram Sai Ganesh**, ..., Srinivasan Parthasarathy
Demo paper at the 2025 IEEE International Conference on Data Mining
- *Domains*: Natural Language Processing, Information Retrieval
- *Work*: Built an interactive demo to showcase an RAG-assisted analytics system for social media data streams. In the wake of a crisis, allows for disaster response teams to assimilate data from citizen-sensed viewpoints to filter for credible, actionable and localized geographic insights

NSF UROP **Optimizing Transformer Models for Image Segmentation on the Edge,**
Sriram Sai Ganesh, Srinivasan Parthasarathy.
Poster presented the 2024 Summer Research Symposium at The Ohio State University
- *Domains*: Computer Vision, Tiny Machine Learning
- *Work*: Optimized Meta's Segment Anything Model (SAM) for inference on the edge. Applied Flash Attention and Post-training Dynamic Quantization to achieve a 50%+ gain in image throughput for all three model sizes. Meta's SAM 2 was revealed shortly after, adapting both optimizations that we made in the core release

Research Experience

2024-2025 **Honors Thesis: Vision Foundation Models on the Edge**
- *Mentor*: Prof. Srinivasan Parthasarathy
- *Domains*: Computer Vision, Tiny Machine Learning, Crisis Informatics
- *Work*: Distilling performance from SAM 2 to build a high-throughput low-resource semantic image segmentation model for inference on the edge. Applications in disaster response scenarios; ongoing Honors Thesis

2024-2025 **Resource-Aware Knowledge Gap Identification**
- *Mentor*: Prof. Srinivasan Parthasarathy
- *Domains*: Computer Vision, Tiny Machine Learning
- *Work*: Detecting and classifying limitations (Knowledge Gaps) in Visual Question Answering systems for inference in resource-constrained environments. Optimizations enable computation speedup with 98% accuracy

Fall 2024 **Code Debugging with LLMs**
- *Mentor*: Prof. Sachin Kumar
- *Domains*: Natural Language Processing
- *Work*: Optimizing `Llama-3.1-8B` for JavaScript (JS) code debugging performance. Augmented a JS *code deobfuscation* pipeline with with an RL fine-tuned LLM. Implemented a Generated Knowledge Prompting system for chain-of-thought in-context learning to achieve 98% improvement in deobfuscation success rate

Work Experience

2023-2025 **Teaching Assistant, CSE 2331 (Data Structures & Algorithms)**
- *Instructor*: Prof. Nickalaus Painter, Prof. Rephael Wenger
- *Work*: In-class teaching assistant & grader for CSE 2331. Assist students with work in-class, conduct biweekly office hours, help write coding labs, and host exam review sessions for 140+ students across four sections

Summer 2023 **DeepKlarity**, *Remote*
- Successfully adapted open- and closed-source models for text sentiment analysis and video question-answering projects

Summer 2022 **CGH Technologies**, *Washington D.C.*
- Built a regression model to analyze FAA Flight Data from EWR & predict Estimated Off-Block Time (EOBT)
- Employed bootstrapping and hyperparameter tuning for ensemble learning accuracy over 85%.

Awards

2024 **Upsilon Pi Epsilon (UPE) Certificate of Achievement**
Awarded to attendees of the ICPC North American Championship.

2024 **Undergraduate Research Scholarship**
Merit scholarship awarded based on Honors Thesis proposal.

2023 **First Place, Hack AI @ Ohio State**
`AirPoint` – multi-modal tool enabling contact-free control of computers using hand gestures.

2023 **First Place, Buckeye CTF @ Ohio State**
Cybersecurity. Team of four solved Cryptography, Web, Binary Exploitation and Reverse Engineering challenges

2021-2024 **Maximus Scholarship**
Merit scholarship awarded to incoming undergraduates in the College of Engineering

Extracurriculars

2021-Present **Competitive Programming (ICPC) Club**

- Represented OSU at the 2024 ICPC North American Championship (NAC) **(top 50 teams in the US)**, team placed 35th nationally
- **President, 2023-24**: Elected to lead club of 40+ active undergraduates. Host weekly programming practices, give lectures on a variety of topics in Data Structures & Algorithms – Binary Search, Max Flow, DP
- **Treasurer, 2022-23**: Host OSU's two annual competitive programming competitions, with international attendance. Liaison with corporate sponsors & the College of Engineering; manage $10,000 annual budget

2021-2024 **Buckeye Space Launch Initiative**

- Member of Ohio State's High-Powered Rocketry team, building an 11-foot O-class Student Researched & Designed (SRAD) rocket to fly to 30,000ft in the annual Intercollegiate Rocket Engineering Competition
- **Deputy Project Manager, 2023-24**: Co-led interdisciplinary team of 60+ members. Helped manage a $30,000 budget to design, build & extensively validate subsystems of our rocket *Asteria*
- Implemented software for *Asteria*'s payload: computer vision-assisted 3-DOF sphere stabilization (3 dimensional Stewart platform) to stabilize a biological experiment under 18Gs of acceleration during motor burn & coast
- **Avionics Engineer, 2021-23**: Member of the Spaceport Avionics team, programming STM32-based flight computer to correctly trigger flight events (ie. main & drogue deployment, active drag system.) SRAD circuit boards (Altium) for radio, power distribution and recovery; inter-board communication over a CAN bus

2021-2024 **Code for Community (C4C @ OSU)**

- *2023-24* Project Lead: Leading 6 students on one of five C4C project teams, building `Pirate Island` – a TypeScript game to teach high schoolers how to code by building conditional statements and loops
- Volunteer with the Columbus Center of Science and Industry (CoSI) to host events, organize workshops at Columbus area middle & high schools. Hosted coding & web design workshops of varying levels

Projects

2025-Present **PanViS: Panoptic Video Scene Graph Generation**

- *Mentor*: Prof. Srinivasan Parthasarathy
- *Work*: `PanViS`, multimodal framework towards solving Panoptic (frame-spanning & pixel-precise) video segmentation. Handles entity recognition, segmentation, tracking, and temporal & spatial memory to decompose a video stream into interpretable event graphs. Downstream applications include video retrieval & QA

2023-2024 **Time Series Analysis Library**

- *Mentor*: Prof. John Paparizzos
- *Work*: Building `SignalTS`, a comprehensive & adaptible time series analytics Python library. Implemented and validated time series models from academic papers & existing libraries, including SAX-VSM, BOSSVS and MrSEQL. Updated documentation & standardized version control practices adapted by all 10+ contributors

Summer 2023 **Stroke Symptom Diagnosis**

- *Mentor*: Prof. Alper Yilmaz
- *Work*: Implemented pipeline for automated ischemic stroke symptom diagnosis from video data using Google's MediaPipe pose landmark detection model. Processed keypoint data with ARIMA, achieved over 70% accuracy in detecting gait anomalies. Collaborators working towards deployment at OSU's medical center

Technical Skills

ML Tools PyTorch, OpenCV, HF Transformers, Numpy, OpenMP, MPI

Misc. Linux, Git, SLURM, Docker, Seaborn, Plotly