

# Sahit Kavukuntla

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## EDUCATION

**Georgia Institute of Technology**, Atlanta, GA

*Aug 2020-May 2024*

- M.S. in Computer Science (Machine Learning, Computing Systems) GPA: 3.8
  - B.S. in Computer Science (Systems and Architecture, Artificial Intelligence) GPA: 3.91
  - *Relevant Coursework:* HW for Machine Learning, Programming Language Design, High Performance Parallel Computing, Natural Language, Deep Learning, Operating Systems, Processor Design, Compilers and Interpreters, Computer Vision, Machine Learning, Automata and Complexity, Advanced Computer Architecture, Artificial Intelligence, Robotics and Perception, Design and Analysis of Algorithms
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## EXPERIENCE

**Platform Architecture Intern, Apple**

*May-Jul 2023*

Power, Performance, and Thermals

- Developed 4 analysis techniques in performance controller to flag threads running inefficiently in CPU scheduler
- Maintained performance and reduced power consumption by 1% by intelligently managing thread behavior within system architecture
- Solved power inefficiencies by preventing threads from utilizing asymmetric multiprocessing and raising voltage and frequency states in the CPU, GPU, and neural engine

**Graduate Teaching Assistant, College of Computing**

*Aug-Dec 2023*

CS 4510 Automata and Complexity

- Conducted office hours and managed online forums to assist 120 senior students with course content
- Assisted with review sessions, homework and exam grading, and exam proctoring

**System Software Intern, NVIDIA**

*May-Jul 2022*

Linux Graphics Drivers

- Solved 8 GPU System Processor RM bugs caused by object initialization hardware abstraction layers
- Created internal interrupt trace tool to report how long interrupts and remote procedure calls within GSP and Client RM take to service

**Software Security Intern, NVIDIA**

*May-Jul 2021*

RM Core MicroCode Security

- Wrote screen capture prototype for anti-cheat neural algorithm onto RISC-V processor running inside GPU
  - Used interrupt handler to capture pixel data for multiple windows on screen; reassembled windows and final screen to pass into neural model to detect cheating during game
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## PROJECTS

**High Performance Computing VIP**, Team Phoenix

*Aug 2021-Present*

Python, CUDA, OpenMP, Fortran; Xcompact3D, NWCHEM, HPL, HPCG

- Optimized parallel and distributed computing applications, algorithms, software, hardware, system administration on high performance computing clusters
- Led and competed in GPU Hackathon, ISC, and SCC to optimize HPC applications for specific hardware given compute, time, and power constraints, as well as port applications to utilize GPUs and DPUs

**Transfer Learning for Code Generation**

*Aug-Dec 2023*

Python, numpy, PyTorch

- Conducted research on the adaptability of Transformer models to unseen programming languages and the potential impact on PL development
- Examined effects of training data composition, data augmentation, and types of models on PL model performance
- Analyzed methods for designing languages that work more effectively with language models

**Emotion Aware Music Generation**

*Aug-Dec 2022*

Python, numpy, PyTorch; sahitk.com/cs-7641-group-3

- Classified music into emotions using Decision Tree, Random Forest, Logistic Regression, and k-Nearest Neighbors
  - Created Generative Adversarial Network to generate music based on emotion input
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## SKILLS

- Programming: Python, C, C++, Java, Assembly, Verilog, VHDL, Swift, MATLAB, git, perforce, Quartus, Vivado
- Operating Systems: Windows, Linux (Ubuntu, RHEL, Fedora), MacOS, iOS
- Languages: English, Telugu, Spanish
- Management: JIRA, Confluence