AGASTYA SETH

MS Computer Science | Arizona State University
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"Driven to create impactful and performant software, leveraging expertise in data science and NLP for innovative solutions."

EDUCATION

ARIZONA STATE UNIVERSITY (Tempe, AZ)
Masters of Science in Computer Science *(Current coursework: Natural Language Processing, Data Visualization, Knowledge Representation & Reasoning)* — Aug 2023

SHIV NADAR UNIVERSITY (UP, India) — GPA: 3.44/4.0
Bachelors of Technology in Electronics and Communication Engineering (Minor in Mathematics) — Aug 2016 - Jun 2020

STANFORD UNIVERSITY (Stanford, CA) — GPA: 4.13/4.3
Visiting Undergraduate Student | Data Science & Technology Entrepreneurship — Summer 2018

WORK EXPERIENCE

CADENCE DESIGN SYSTEMS — Noida, India
Software Engineer II (R&D) — Jul 2020 – Jul 2023
As part of the R&D team, collaborated within a global cross-functional group driving innovation for the Quantus Parasitic Extraction Cell-level tool, used by industry leaders such as Apple, Qualcomm, and Intel, to accurately estimate RC-parasitics for digital designs.

- Led the development of high-efficiency algorithms rooted in graph theory, geometry processing, and pattern matching. These contributions elevated tool performance and capabilities across more than 10 significant projects and 100+ distinct issues.
- Managed enhancements to core libraries and effectively addressed customer-oriented issues, spanning preprocessing, flow optimization, and messaging. Additionally, led efforts to enhance and maintain the Rccompare tool, crucial for multi-million-net design comparisons.
- Successfully deployed a Flex/Bison-based parser library tailored for efficient processing of subcircuit (subckt) files.
- **Stack:** C++, Python, Valgrind, Parasoft, ASAN, Perforce, GDB, Perl, Ruby, Linux, Shell

LIQVID <> SHIV NADAR UNIVERSITY - NLP RESEARCH INITIATIVE — Remote (Part-time)
Data Science Consultant — Aug 2020 – Sep 2021

- Orchestrated cutting-edge research alongside Prof. Rajeev Kumar (SNU) and LiqVid English Edge, resulting in an AES tool boasting an 82% kappa score across six essay sets, achieved through a novel application of transformer-based deep language models - using DistilBERT and an ensemble LSTM-model with three sequence models for enhanced explainability and refined fine-tuning.
- Our novel approach with near SOTA accuracy facilitated adoption by billion-dollar publishing companies & testing agencies like Wiley.
- **Stack:** Python, PyTorch, Keras, TensorFlow, AWS EC2, SageMaker, Docker, Kubernetes

VISENZE — Singapore
Data Science Intern — Jan 2020 – Jul 2020

- Managed data-rich projects (100s of datasets, 10+ projects) to improve flagship products for billion-dollar brands like Sephora.
- Improved F1-scores for fashion-attributes models by 15-20% via augmented data, attention models, & hyperparameter tuning.
- Innovated perspective classification and group models, optimizing efficiency through unique pipelines and a T-SNE sufficiency-based image parsing algorithm, reducing model iteration turnaround time by 10x.
- **Stack:** Python, PyTorch, Keras, ONNX, JupyterLab, Docker, BS4, Selenium, HTML/CSS

KEY PROJECTS

Exploring Reinforcement Learning Methods in Large Language Models (RL4LMs) — Present
Massive MIMO Channel Estimation using Deep Image Prior (Major Project) — 2019
RNBIP - Single Bus Processor Architecture Synthesis (UG Research) — 2017
Schizophrenia Detection and Prevention through 3D-CNN on EEG and f-MRI Data (UG Research) — 2019
SkiNet - Skin Segmentation and Melanoma Classification (Deep Learning Course Project) — 2019
GreenCarbon - DLT-based Sustainability Platform for Product Lifecycles and Personalized Carbon Scores (Stanford SVIA) — 2018

ACHIEVEMENTS

Smart India Hackathon 2019 - Winner: Addressed EV range-anxiety with Tata Motors (Asia's largest Hackathon, 300k participants)
Google Science Fair 2014 - Regional Finalist: Crafted an Android app for real-time crop prices, empowering Indian farmers
Shiv Nadar University 70% Merit-Based Scholarship

ADDITIONAL

Papers/Publications: QueryLog: Querying Quantus Output files using LLMs, Quantus 3DIC Inter-die Extraction (IDX)
Technical Skills: C/C++, Python, MERN, SQL, MongoDB, R, MATLAB, Java, Kotlin, Swift, Verilog, Linux, Ruby, Perl, REST, Node.js, D3
Deep Learning: CNNs, OpenCV, Sequence Models, Autoencoders, GANs, LSTMs, Language Modelling/LLMs, PyTorch, TensorFlow, Keras
Software: Jupyter, QtCreator, Valgrind, Android Studio, AWS, Perforce, Git, Docker, Kubernetes, Hadoop, Spark, Django, HTML/CSS
Certifications/Select Coursework: Deep Learning Specialization, Full-Stack Web Dev, Linear Algebra, Optimization, Game Theory
Communities/Activities: Core member at Roboyantriki (SNU Robotics), Working Committee at Snuphoria (SNU Music Society)