Alisetti Sai Vamsi

B.Tech (Bachelor of Technology) in Computer Science & Engineering, Indian Institute of Technology (IIT), Palakkad

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EDUCATION

COURSE	SPECIALIZATION	INSTITUTE/COLLEGE	%/CGPA	Year of Completion
Undergrad.	Computer Science	Indian Institute of Technology, Palakkad (IIT)	8.53 (current)	June, 2022
XII	Science	Narayana Junior College	97%	2018
X	Science	Narayana Olympiad School	88%	2016

TECHNICAL SKILLS

Research Interest: Deep Learning, Reinforcement Learning, Natural Language Processing, Computer Vision, Algorithms

Technical Proficiency – Advanced Level

Programming Languages	Python, C/C++/C#, JavaScript, Verilog (HDL), SML, Bash
Frameworks	TensorFlow, PyTorch, Angular, React, Nodejs, Flutter, Fusion 360, Figma
Operating Systems	Linux – Ubuntu (Daily Driver), Windows
Computing Environments	MATLAB, Vivado Design Suite, Docker
Databases & Cloud	MySQL, GCP, MongoDB
Embedded/Hardware Frameworks	FPGA, Ultimaker 3D printing, Arduino

WORK EXPERIENCE

Indian Institute of Science (IISc), Bangalore **Jun 2021 to Present**
Summer Research Intern *Supervisor: Dr. Tarun Rambha*

- Working on developing coordinated MARL (Mutli Agent Reinforcement Learning) algorithms for collision avoidance in open traffic systems and to mitigate phantom jams in closed traffic systems.
- Setting up custom RL environments using PyGame and OpenAI Gym and running simulations leveraging Tensorflow GPU.

Gritly (Formerly Internalyze) **Jul – Dec 2020**
Founding Team Member | Lead Backend Developer

At Gritly, we provide a platform for students to break into the sales industry by educating and training students through sales bootcamps and networking with partner companies for possible job opportunities. Being one of the starting 8 founding team members, I took the charge to architect the entire backend development.

- End-to-End NoSQL Database Design (MongoDB)
- Full Stack Design for website and classroom management tool
- Collaboration through UI/UX design
- Customer Development

UST Global **Jun – Aug 2020**
Research Intern

- Worked on building production level Paraphrase Generator using SOTA NLP transformer architectures.
- Developed a web API using streamlit and flask for model inference.
- Built a data generation CLI tool using the paraphrase generator for creating datasets with similar semantics.

Timken Engineering & Research India Pvt. Ltd **Dec – Dec 2019**
Application Engineer

- Full Stack Development with C# and SQL.
- Added core feature updates to the Job Management software and refined UI elements using Javascript and jQuery.

PROJECTS

Multi Agent Reinforcement Learning for Cooperative and Independent behaviors on Highways **August 2021 - Present**

Developing novel coordinated MARL algorithms to avoid collisions on highways and dissipating traffic congestion waves in ring road systems. Analyzing cooperative and independent driving policies in multi agent systems in different traffic scenarios.

Sparse Reward Propagation for Deep Reinforcement Learning **Feb 2021 – May 2021**

Constructing a potential-based reward shaping function automatically from the MDP using a Graph Convolutional Network (GCN) and augmenting it on the sparse reward system to propagate rewards and accelerate RL algorithms. Proto Value Functions (PVF) have been used as features into GCN, since PVF from basis of value function space. Link

Deep Regression Techniques for Decoding Dark Matter with Strong Gravitational Lensing **Mar 2021 – Apr 2021**

Simulating superfluid dark matter using PyLens, and performing deep regression using SOTA feature extractors from PyTorch to learn the mass of dark matter substructures. Link

Advantage Actor Critic with Nesterov Accelerated Gradient **Dec 2020 – Feb 2021**

Improved the advantage actor critic algorithm using the Nesterov Accelerated Gradient instead of stochastic gradient descent for faster convergence of the policy. Link

Paraphrase Generator **Jun 2020 – Jul 2020**

A Paraphrase-Generator built using T5 transformer model from the hugging face transformers library trained on the Google's PAWS dataset. The model inference API is built using streamlit and flask**.** Link

IITPKD's Project Allocation Portal **Mar 2020 – May 2020**

A web app built using MEAN stack for final year BTech project allocation. The algorithm used is a modified version of the Gale Shapely algorithm which can handle two-sided preference. The website is officially a part of the university and is hosted on the university's server using NGINX. Link

Meet.me **Sept 2021 – Dec 2021**

Worked on Queue Management Module my implementing Weighted Fair Queueing Algorithm inside the Networking Main Module. Optimized networking performance by implementing event driven thread blocking. Link

POSITION OF RESPONSIBILITY & AWARDS

Gold Medal in Inter IIT Tech Meet **Dec 2018**

Won the first place in Tata Center of Technology and Development (TCTD) Challenge in Inter IIT Tech Meet 2018 at IIT Bombay for developing proof of concept "Automated Pesticide Spraying Robot" for the problem statement "Farm tools that reduce drudgery". The robot uses simple electronics to autonomously navigate fields while spraying pesticide by detecting plants. The chassis has a unique closed design enabling the robot to spray pesticide efficiently such that it reaches all the parts of the plant and avoid dispersion of pesticides due to wind. Link

IIT Palakkad Technology IHub Foundation Agni U.G. Fellowship **Sept 2021**

Research grant obtained by achieving the prestigious and competitive Agni UG fellowship for my project "Multi Agent Reinforcement Learning for Cooperative and Independent behaviors on Highways" for advances in Intelligent Collaborative Systems. Link

Winter of Code (DSC NSEC) Top Contributor **Dec 2020**

Top Contributor in the open-source program organized by the Google Developer Student Club from NSEC College on my project "Text Sentiment Analysis". Link

Creative Content Team Member/Interviewer Alumni **Jun 2020 – Jan 2021**

Developed content for the yearbook and newsletter by conducting interviews of alumni and covering their stories. Link

Web Team Member of Alumni Cell **Jun 2020 – Jan 2021**

Development of the alumni website, and mentoring juniors in building end to end websites. Link

EXTRA CURRICULARS

Member of Literary Arts Club (Aakshar) **Aug 2018 - Present**

Member of Dance Club (Sync To Beat) **Jan 2020 - Present**

Soccer, Chess, Basketball, Reading, Astronomy