

Alisetti Sai Vamsi

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Objective: Software Developer and AI Researcher with 2+ years of professional expertise in software designs/patterns, ML research aiming to pursue masters in computer science with specialization in AI to later pursue a PhD career.

EDUCATION

Indian Institute of Technology (IIT), Palakkad

Bachelor of Technology in Computer Science and Engineering

GPA: 8.64/10.00

Kerala, India

Jul 2018 – Jul 2022

- **Relevant coursework:** Vector Calculus & Liner Algebra, Foundations of Data Science & Machine Learning, Probability & Stochastic Processes, Reinforcement Learning, Artificial Intelligence

TECHNICAL SKILLS

Programming: C, C++, C#, Java, Python, Bash, Javascript, Verilog (HDL), SML

Frameworks: PyTorch/Lightning, Tensorflow, Git & GitHub, Figma, Node.js, React, Flutter, Spring Boot, Agile

Computing Environments: MATLAB, Vivado Design Suite, Docker

Databases & Cloud: MySQL, GCP (Kubernetes), MongoDB

Embedded/Hardware Frameworks: FPGA, Ultimaker 3D Printing, Arduino

RESEARCH EXPERIENCE

CiSTUP Research Group, Indian Institute of Science

Summer Research Intern - Supervisor: Dr. Tarun Rambha

Bangalore, India

Aug 2022 – May 2023

- Developed and implemented advanced value-based coordinated MARL algorithms (QMIX, VDN) and policy-based coordinated MARL algorithms (MADDPG) on closed traffic systems to solve wave dissipation.
- Developed and implemented value-based algorithms (DQN) and policy-based algorithms (A2C, PPO) on open traffic systems to solve collision avoidance and time optimization traffic problems.
- Set up simulations by building custom RL environments leveraging OpenAI Gym and using PyGame/SUMO as the simulator.

Infinity Labs, UST Global

Research Intern

Kerala, India

Jun 2020 – Aug 2020

- Explored huggingface library for potential transformer model integrations & integrated SOTA NLP transformers for sentence similarity (BERT) and paraphrase generation (T5) into their project development pipeline.
- Developed a web interface using streamlit and Flask for realtime model inference and data collection.
- Built a data generation CLI tool using the paraphrase generator for creating datasets with similar semantics.

WORK EXPERIENCE

AirAsia

Software Development Engineer

Bangalore, India

Aug 2022 – Present

- Designed and built a microservice using Spring Boot and MySQL to consolidate station/destination data from numerous suppliers into a single unified structured feed into the search platform. To further boost this endeavour, a city level grouping tool was included, which increased the user base by 20%.
- Reduced MySQL database costs by 90% through code/design optimization and adjusting InnoDB settings. Reduced cloud storage costs by 30% by optimizing bucket uploads/bucket object versioning life cycle rules.
- Built a versatile config-driven and template based scheduler platform that provides a scalable and cost-effective solution for management of google cloud schedulers using Python & Bash. This initiative drastically increased the team's productivity by reducing the time taken to manage schedulers on a scale.
- Played an integral part in China re-opening of Airasia, by developing custom filters to block certain airlines. Additionally was responsible for more than 50 bugs/releases on production.

Gritly

Lead Backend Developer - Remote

Colorado, Boulder

Jul 2020 – Dec 2020

- Developed the MVP (website, classroom management software), using the MERN stack that expedited client onboarding and grew user base by more than 80%.
- Hosted the application on Google Cloud Platform and optimized it for SEO.
- Integrated Google Analytics for user statistics & developed UI/UX designs on Figma to improve customer experience. Conducted customer development interviews, to reinforce feedback for better feature implementations. Prepared pitch decks for techstarts and Y combinator programs.

Timken Engineering & Research India Pvt. Ltd

Application Engineer Intern

Bangalore, India

Dec 2019 – Jan 2020

- Added core feature updates to their Job Management Software, increasing the productivity by 40%.
- Refined UI elements using Javascript and jQuery. Full Stack Development with C#, ASP.NET, SQL Server.

PROJECTS

- MultiAgent RL for Cooperative & Independent Behaviours on Highways** | [Link](#) Aug 2021 – May 2022
TeamSize: 1 - **Supervisor:** Dr. Tarun Rambha **Role:** Team Lead
- Analyzed and studied novel coordinated MARL algorithms to avoid collisions on highways and dissipating traffic congestion waves in ring road systems. Developed cooperative and independent driving policies in multi agent systems in different traffic scenarios.
- Meet.me** | [Link](#) Jul 2021 – Aug 2021
TeamSize: 30 - **Supervisor:** Ramaswamy Krishnan-Chittur (Microsoft) **Role:** Team Member
- Meet.me is a collaborative screensharing/whiteboarding tool. Worked on Queue Management Module by implementing Weighted Fair Queueing Algorithm inside the Networking Main Module thereby increasing application performance by 70% for priority based tasks. Optimized networking performance by implementing event driven thread blocking.
- Sparse Reward Propagation for Deep Reinforcement Learning** | [Link](#) Feb 2021 – May 2021
TeamSize: 2 - **Supervisor:** Dr. Chandrashekar Lakshminarayan **Role:** Team Lead
- Extracted a potential-based reward shaping function automatically from the MDP using a Graph Convolutional Network (GCN) and augmented 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 form basis of value function space.
- Paraphrase Generator with T5 Transformer** | [Link](#) Jun 2020 – Jul 2020
TeamSize: 1 - **Supervisor:** UST Global **Role:** Team Lead
- A paraphrasing transformer model built using T5 transformer from the hugging face library, trained on the Google's PAWS dataset. Implemented novel auto-regressive inference with semantic sentence similarity thresholding for diverse paraphrases on every inference. The model is published on the huggingface transformer hub and has been cited in several research papers mentioned on the GitHub page.
- IIT Palakkad's Project Allocation Portal** | [Link](#) Mar 2020 – May 2020
TeamSize: 2 - **Supervisor:** Dr. Albert Sunny **Role:** Team Lead
- A smart productivity tool built to reduce the drudgery of manual project allocation of capstone projects. A modified version of Gale Shapely algorithm is implemented which can handle two-sided preferences from both teachers/students and produce a stable allocation. MEAN stack was used for developing the web app, and it is hosted on the university's server leveraging NGINX web server.

AWARDS & ACHIEVEMENTS

- Gold Medal in Inter IIT Tech Meet** | [Link](#) Dec 2018
- Won the first place in Tata Center of Technology and Development 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".
- Winter of Code Top Contributor** | [Link](#) | [GitHub](#) Dec 2020
- Top Contributor in the open-source program organized by the Google Developer Student Club under the DSC IEM sub-organization for working on the project "Text Sentiment Analysis".
- IIT Palakkad Technology IHUB Foundation Agni U.G Fellowship** | [Link](#) Sep 2021
- Research grant earned by achieving the prestigious Agni UG fellowship for my project "Multi Agent RL for Cooperative and Independent behaviors on Highways" for advances in Intelligent Collaborative Systems.
- Natural Language Processing Certificaiton - NPTEL Top 1%** | [Link](#) Oct 2021
- Acheived top 1% in the national level natural language processing certification course.

CERTIFICATION/WORKSHOPS

- Natural Language Processing (NPTEL)** | [Link](#) Jul 2021 – Oct 2021
- HackMIT (Hackathon - MIT)** | [GitHub](#) Sep 2020
- PenApps Hack (Hackathon - University of Pennsylvania)** | [Link](#) | [GitHub](#) Sep 2020
- Shell Hacks (Hackathon - Florida International University)** | [Link](#) | [GitHub](#) Sep 2020
- Natural Language Processing in Tensorflow (Coursera - DeepLearning.AI)** | [Link](#) Jun 2020 – Jul 2020
- Neural Networks & Deep Learning (Coursera - DeepLearning.AI)** | [Link](#) Jun 2020 – July 2020
- MindShift (Coursera - McMaster University)** | [Link](#) May 2020 – Jun 2020

LEADERSHIP/COMMUNITY INVOLVEMENT

- IIT Palakkad Alumni Cell** | [Link](#) Jun 2020 – Jan 2021
Content Writer - Interviewer - Web Design Team
- Developed content for yearbook by conducting interviews of alumni to cover their stories. Reinforced Alumni network link with students by developing a web platform for alumni that provides live updates/potential opportunities for students. This platform is now officially a part of the university.
 - Mentored a team of 5 juniors in developing the alumni social network platform using MERN stack.
- Robin Hood Army** | [Link](#) Jul 2023 – Present
Volunteer
- Distributing surplus food from restaurants and the community to serve less fortunate people.
 - Teaching English/Math to underprivileged kids in government schools.