Alisetti Sai Vamsi

B.Tech (Bachelor of Technology) in Computer Science and 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)	8.49 (current)	2022 (Expected)
XII	Science	Narayana Junior College	97%	2018
X	Science	Narayana Olympiad School	88%	2016

TECHNICAL SKILLS

Research Interest Deep Learning, Natural Language Processing, Transformer Models, Reinforcement Learning Artificial Intelligence, Algorithms

Technical Proficiency – Advanced Level

Programming Languages	C, C++, Python, Java, JavaScript, Verilog (Hardware Description Language), Typescript, SML, Bash
Operating Systems	Linux – Ubuntu (Daily Driver), Windows
Computing Environments	MATLAB, Vivado Design Suite
Databases & Cloud	MySQL, GCP, MongoDB
Embedded/Hardware Frameworks	FPGA, Ultimaker 3D printing, Arduino, Raspberry Pi
Research Misc.	LaTeX
Frameworks	Angular, React, Nodejs, Flutter, TensorFlow, Pytorch, Fusion 360, Auto CAD

WORK EXPERIENCE

Lead Backend Developer **Jul 2020 to Dec 2020**
Internalyze

As a founding team member, I design and manage the backend of our web API and the structuring of the database. I am responsible for designing the full pipeline of the backend and manage the dataflow to the db. I also take responsibility for the hosting end of the website. I also design and make some of the web pages on the frontend when needed.

Check us out @ https://www.internalyze.co

Internalyze is a team of visionaries who believe in a brighter and better future for all. Internalyze is ready to modernize a new era of specific and purposeful education that leads to real jobs in sales. We are offering a great opportunity for community college students and other non-traditional students of diverse backgrounds to enter the tech industry and bridge the divide.

Research Intern **Jun 2020 to Jul 2020**
UST Global

Research on the state-of-the-art NLP architectures (Transformers). Explored the Hugging face library of transformers. Built transformer model pipelines for fine-tuning on different NLP tasks. Built a Paraphrase Generator using the T5 Model architecture which is trained on Google's PAWS dataset and made a web API using streamlit and flask. Built a data generation, CLI Tool, for generating sentences with similar semantics. Contributed a model to the open-source hugging face library.

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

Full Stack Development with C# and SQL. Added core feature updates to the job management software WEB API. Updated DB functionality. Refined frontend code with JavaScript and jQuery.

PROJECTS

Reward Propagation in Hierarchical graphs using GCN's and Differentiable Pooling **Feb 2021 to present**

Sparse rewards have been a prevailing problem in the reinforcement learning field. And also solving sparse rewards in a hierarchical setup is even more difficult. So in order to solve this we have used differentiable pooling methods to extract hierarchical representations and use GCN's to propagate these sparse rewards throughout the environment.

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

Improving the advantage actor critic method for policy gradient using the Nesterov Accelerated Gradient instead of stochastic gradient descent for faster convergence. This is being tested in the environment of Atari breakout.

Time Sync **Sept 2020 to Sept 2020**

Having an accountability partner is useful. Knowing that someone is watching can be a powerful motivator. Focusing on this as our virtue, we developed an application which connects a user with his/her peers and helps in increasing productivity by regulating the user's screen time which is managed the his/her peers. Using Flutter, firebase, and onesignal api we made a mobile application which helps reduce screen time through mutual consent. This project was submitted to HackMIT.

Paraphrase Generator **Jun 2020 to Jul 2020**

A Paraphrase-Generator built using transformers which takes an English sentence as an input and produces a set of paraphrased sentences. The model used here is the T5ForConditionalGeneration from the hugging face transformers library. This model is trained on the Google's PAWS Dataset and inference API is built using streamlit and flask**.**

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

A web app built using MEAN stack for final year BTech project allocation. The algorithm used is a variant of the Gale Shapely algorithm. Website Link.

Automatic Pesticide Spraying Robot **Oct 2018 to Dec 2018**

An autonomous, robust and affordable robot for the farmers who require efficient and safe pesticide spraying. The robot uses simple electronics to autonomously navigate fields while spraying pesticide by detecting plants. The chassis has a unique closed design enabling our robot to spray pesticide efficiently such that it reaches all the parts of the plant, avoid dispersion of pesticides due to wind and also stay in close proximity to the plant to enable efficient detection.

RISC V Simulator **Jan 2020 to May 2020**

Made a RISC V pipelined processor simulator in Xilinks Vivado Design Suite using Verilog programming language. The processor includes the memory hierarchy and computes most of the instructions given in the RISC V ISA.

Tic Tac Toe using FPGA **Oct 2019 to Nov 2019**

The game was implemented on a Zybo-7000 using the hardware description language Verilog. The implementation included using the concept of Finite State Machines (FSM). Our implementation is a Moore Machine. The performance of the game was faster than any normal implementation on a general computer. The code was developed on Vivado design suite.

Room Mopping Robot **Mar 2019 to Apr 2019**

An autonomous robot which can traverse through a simple shaped geometric room by avoiding any obstacles and cleans the floor as it moves. Multiple ultrasound sensors are used for navigation and a pump for water spraying, which are controlled using an Arduino.

POSITION OF RESPONSIBILITY & AWARDS

Gold Medal In Inter IIT Tech Meet

We 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".

Winter of Code (DSC NSEC) Top Contributor **Dec 2020 – Jan 2021**

Successfully completed the Hacktoberfest challenge **Oct 2020 – Oct 2020**

Project Lead - Project Allocation Portal **Mar 2020 – May 2020**

Lead Backend Developer – Internalyze **Jun 2020 – Dec 2020**

Alumni Cell Newsletter Content Creator **May 2020 – Present**

Alumni Cell Interviewer **May 2020 – Present**

EXTRA CURRICULARS

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

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

Soccer, Chess, Basketball