Contact

www.linkedin.com/in/saitejapadakandla (LinkedIn)
saitejapadakandla.github.io/Portfolio (Personal)

Top Skills

Software Design
Design Patterns
Hypertext Transfer Protocol (HTTP)

Languages

Tamil
English
Telugu
Hindi

Certifications

Machine Learning with Python
Spring - Ecosystem and Core
Web API and Entity Framework (DotNet 5)
Blockchain for Developers: Hyperledger Fabric on Azure
Spring MVC, Spring Boot and Rest Controllers

Honors-Awards

Secured place in Toppers List in "INTRODUCTION TO TIME FREQUENCYANALYSIS AND WAVELET TRANSFORMS" online certification course
Engineering Fellowship
Dean's Scholarship
ECE Department topper

Publications

Automated detection of Epilepsy using wavelet Features
Automatic detection of epilepsy using ensemble learning approach

Sai Teja Padakandla

Senior SDE at NVIDIA
Chandler, Arizona, United States

Summary

SaiTeja graduated in Computer Engineering from Arizona State University in May 2021. He is currently working as software engineer in Nvidia Santaclara and has 2 years of prior software development work experience in Rockwell Collins and also worked as a Software Developer intern for around 1.5 years. He also worked as Research Assistant for professors in Bachelors in Sastra University and in his Masters in ASU and developed software for Challenging real-world problems in Machine Learning, Deep Learning and developed Full stack applications by working on various technologies such as Java, BlockChain, RestAPI, etc. He enjoys working on challenging real-world and impactful projects. In the past, during internships, Full-time, research work, and as part of personal projects, he has worked primarily on Backend Software Development using technologies like Java, SpringBoot, RestAPI, C#, C++17, NodeJS, React, Deep Learning techniques such as Transfer Learning, Image processing.

Technologies:

- Programming Languages: C#, Java, Python, Scala, C++ 11, Go, C
- Cloud Technologies: AWS - EC2, SQS and S3, and Google Firebase Realtime Database
- Web Technologies: HTML5, CSS3, JavaScript(Node.js, Angular, React), d3.js, JSON, jQuery, Bootstrap
- Databases: MySQL, MongoDB, PostgreSQL, Hadoop
- Backend: Flask, NodeJS, SpringBoot
- IDE/Tools: Spyder, Eclipse, MATLAB, Android Studio, Visual Studio Code, Oracle SQL Developer
- Big Data: Apache Spark, Hadoop
- Technologies: REST, SOAP, WSDL, AJAX, XML, TOMCAT, Servlets, Docker, Kubernetes

- Machine Learning: OpenCV, TensorFlow, Keras, sci-kit-learn, pandas, NumPy, SciPy
- Networking: TCP, UDP, SNMP, RTSP, TCP Spoofing, SQL Injection, XPath-Injection, XSS attacks
- Hardware: ETAM, Lauterbach, VxWorks, Verilog, RTL,HDL.
- Others: Linux, GIT, Bash scripting, SVN, BlockChain

Experience

NVIDIA

4 years 1 month

Senior Software Developer

April 2024 - Present (1 year 3 months)
United States

Working on Gen AI and Full stack web development problems.

Software Engineer

June 2021 - April 2024 (2 years 11 months)
United States remote

Working on design and development of proprietary tools, services and web applications. This includes the full-stack design of databases, backend and frontend. It will also involve application deployment, direct interaction with end users, performance tuning, and building infrastructure and microservices to support the application.

Tech Stack:
Backend: ASP.NET Core 6, Spring
Front end frameworks: React, JQUERY
Databases: SQL Server, Mongo db
Cloud and Big data: GCP,AWS, Splunk
Data Streaming Services: RabbitMQ,Kafka
Web Apis: Rest,gRPC

Gen AI:
Nvidia is transitioning towards a Gen AI company and our ceo wants everyone to be expert in Gen AI. So I got opportunities to be part of Internal Gen AI communities and also develop Retrieval Augmented Generation applications/ bot for my org where users can ask questions on private data. For this, I used

langchain framework and Nemo apis. Architecture includes vectorizing the documents provided by users and store them in a vector database like FAISS, Qdrant, Milvus etc and then when user asks question, it would be vectorized as well and searched in the vector db using semantic search. We get back top k results and based on the returned results we select top 1 and then augment the question with the relevant context and query the LLM for response. This provides LLM with optimized context and can add better results. Implemented multimodal apps where users can see relevant images or tables in the doc. Added agents for plotting and visualizations and web search. Used Ragas for measuring efficiency.

CYR3CON
Software Engineer Intern
December 2020 - May 2021 (6 months)
Tempe, Arizona, United States

Worked on building Backend infrastructure to get data for Deep learning models

Arizona State University
Deep learning Research Assistant
September 2020 - December 2020 (4 months)
Tempe, Arizona, United States

Worked as Deep Learning RA under Professor - Micheal Kozicki

Role and Responsibilities:

1) Developed Deep Learning models using CNN and Transfer Learning techniques such as VGG Model,Google Inception Model and Microsoft ResNet Model for Classification of real Dendrite images which are used for authentication purposes.

2) The Dendrite Authentication System is patented and developed by ASU Dendrite Research Group, this would replace the existing authentication system using BarCode scanning and would be a system that no one could compromise. Thus reliability and security would be provided by this new system.

3) As part of this project, worked on OpenCV for preprocessing of the images before feeding in the input to the model. Used PyTorch and Image processing techniques such as Canny Edge Detection Algorithm as part of this work.

4) Implemented a Full-stack working model of the project with a user login system and a Block chain Database in the BackEnd. Instead of conventional databases such as Postgresql, Block chain is used because it records every transaction and it is more reliable and secure than the conventional databases. As part of this model, the end user would feed in the dendrite image to the application and the system would authenticate this using Image classification algorithm called ORB(Oriented Fast and Rotated Brief) OpenCV algorithm and as part of this process Wavelet Hash algorithm is used for computing the hash of the image and is validated against the BlockChain Database.

CYR3CON
Software Engineer Intern
May 2020 - August 2020 (4 months)
Tempe, Arizona, United States

Collins Aerospace
Software Engineer
June 2017 - July 2019 (2 years 2 months)
Hyderabad Area, India

I worked for the Fly-By-Interface Simulation (FIS) Generation 2 software team in Flight Control Systems, Boeing 777X program.

1) Designed a multi-platform middleware that enables soft real-time communication between applications written in C, C++ 17, Python,Java,Javascript and C# running on Windows, VxWorks, and Linux for FCS team.

2) Developed an Python Full stack Application with SQL as database in order to ease the task of verifying the Formal logs.This reduced the manual verification effort by 40%.

3) Developed an internal packet sniffer in C++17 for Ethernet packet capture using mutex locks replacing the Wire shark functionality. This is to avoid using third party tools in the project for security purposes.

4) Developed Symbol Search GUI and several other applications such as BigBatch GUI, GUI's for A429,A664 bus communication in C# for better user interaction.

5) Developed an application that performs real-time read/write operations on the memory of Flight Control Computer of Boeing 777X aircraft using UDP packets over Ethernet (IPv4).

6) Developed and Qualified a test output comparison tool as per DO-330 software tool standards. This helped to save around 50% test effort by the users. Worked Onsite in Cedar Rapids to finish this critical project on time.

7) Contributed to conforming or assuring the correctness of the Flight Control Computer.

8) Resolved software issues reported by the users through JIRA and support them in case any system software or hardware issues occur.

9) Captured software requirements, participated in user requirements review.

10)Participated in software code reviews in Crucible.

11) Performed unit testing, Integration testing for all the software components developed.

12) Performed asymptotic and time complexity analysis of software developed.

13) Written test cases and test procedures for low-level software requirements.

14)Mentored new engineers in the project and participated in Knowledge sharing sessions.

Rockwell Collins
Student Intern
December 2016 - June 2017 (7 months)
Hyderabad Area, India

Did an internship for period of six months to become well prepared for the job environment.
- Learnt the avionics protocols such as Arinc 664,429 well.
- Understood the architecture of Flight Interface simulation software.
- Supported team in resolving issues and new application development.

- Performed unit testing and had written test cases and test procedures.
- Learnt about different software life cycles like Agile etc and software standards such as DO-330,DO-178-C.

Education

Arizona State University

Master's degree, Computer Systems · (2019 - 2021)

Shanmugha Arts, Science, Technology and Research Academy

Master's degree, Communication systems · (2012 - 2017)