

Sasank Chunduri

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Education

Master of Science, Software Engineering Systems

Northeastern University, Boston, MA, United States | GPA: 3.74/4.00

Sep 2021 - Dec 2023

Professional Experience

Monarch Finance, Lead Engineer | Boston, MA - [Link](#)

Jan 2024 - Present

- Engineered and implemented Solidity smart contracts for a cross-protocol governance aggregation system along with testing and deployment scripts using Hardhat, Foundry and Tenderly, ensuring robust and secure blockchain interactions.
- Developed a high-performance dApp utilizing Next.js, TypeScript, Tailwind CSS, Rainbow Kit, and Wagmi/Viem, delivering a seamless user experience for DeFi operations.
- Optimized on-chain data retrieval by integrating subgraphs and implementing server actions, significantly reducing client-side fetching and RPC calls.
- Collaborated with cross-functional teams to design and develop blockchain-based applications and smart contracts, addressing specific business requirements in decentralized finance.

Warburg Serres, Software Engineer | Boston, MA

Jan 2023 - Jan 2024

- Engineered front-end components and developed a reusable component library package using React, Next.js, TypeScript, and Rollup, enhancing user experience and interface efficiency in a venture capital portfolio management system.
- Engineered a scalable serverless backend infrastructure using NestJS, Prisma, and AWS Lambda, optimizing for high-volume, data-intensive operations and ensuring robust, secure data management.
- Prototyped the integration with Blockchains like Ethereum, utilizing RPCs and specialized libraries to extract transaction data, thereby expanding the system's functionality and value. Implemented secure and efficient data pipelines using Snowflake for big data analytics, ensuring the rapid processing of millions of transactions.
- Actively contributed to Agile development cycles, including sprint planning and code reviews, driving continuous enhancement of application performance and user experience.

Timing Technologies, Engineering Intern | Hyderabad, India

May 2020 - August 2020

- Engineered an immutable, CLI-controlled blockchain database, integrating RFID technology for precise event timing, notably in marathons and 10K runs. Instrumental in deploying RFID solutions, significantly improving timing accuracy and efficiency amidst challenges like crowded starts and complex finishes, ensuring reliability in large-scale sporting events.

Nature Born Projects, Summer Intern | Hyderabad, India

May 2018 - August 2018

- Led the design and development of the Nature Born Projects website, emphasizing solar energy solutions through user-centric design and informative content. Worked alongside Focaal Automation to deliver a comprehensive tracking solution for a solar power plant, utilizing cloud-based SCADA architecture for enhanced energy production.

Technical Skills

Languages: JavaScript, Solidity, Typescript, Rust, Python, Java, Kotlin, Bash, GraphQL, SQL, PHP, C++, C, MATLAB, R, Circom

Softwares and Tools: React, Node.js, Next.js, AWS, NestJS, Prisma, Linux, Git, Vim, Jupyter, Snowflake, Terraform, CloudFormation, Docker, Rest APIs, Express, PostgreSQL, MongoDB, Android Studio, Vscode

Blockchain: Ethereum, Hyperledger, Solidity, Rust, Hardhat, Foundry, Ethers.js, Wagmi, Viem, Truffle, Remix, Ganache, Web3.js, OpenZeppelin, ERC-20, ERC-721, ERC-1155, ERC-4626, DAO Governance, IPFS

AI/ML Frameworks: TensorFlow, PyTorch, OpenCV, Keras, Hugging Face Transformers, AWS SageMaker, OpenCV, ResNet, CNN, GANs, LLM Fine Tuning, Stable Diffusion, Scikit-learn, JAX, SpaCy, NLTK, ComfyUI

Projects

SillyTavern based AI Companion

August 2024

- Created a SillyTavern-based companion bot powered by NousResearch Hermes Llama 3.1, utilizing NLP and AI models to simulate engaging, personalized conversations.
- Integrated a Flux LoRa workflow for consistent character generation and xtts v2 TTS with streaming (Text-to-Speech) for generating realistic low latency voice responses, creating an immersive, multi-modal chatbot experience.

Decentralized AI Platform

April 2024

- Conceptualized and built a decentralized AI application leveraging decentralized storage for AI models. Implemented blockchain-based AI model authentication using smart contracts, ensuring data privacy and ownership integrity.
- Prototyped the app with Next.js, React, and TypeScript, and used docker to containerize fine-tuned LLM and Stable Diffusion models on an A100 GPU, providing inference to the frontend via REST APIs.

Hyperliquid Market Making Bot

December 2023

- Developed a market-making bot using the Hyperliquid Rust SDK to automate trading strategies and increase liquidity and generate volume for their airdrop on the decentralized exchange platform. Optimized trade execution by 40% with asynchronous operations via Tokio, and integrated real-time price data using WebSocket APIs.
- Monitored performance with Prometheus and Grafana, improving trade execution efficiency and tracking profitability.

Active Liquidity Management on Uniswap V3

August 2023

- Built a DeFi protocol for active liquidity management on Uniswap V3 using ERC-4626 vaults, offering yield-generating strategies while minimizing risk for liquidity providers.
- Developed the dApp using React, Next.js, TypeScript, and integrated Wagmi/Viem for smart contract interactions and TheGraph subgraphs with GraphQL for real-time on-chain data aggregation.

Bleed eSports Official Website - bleed.gg

August 2023

- Spearheaded the development of the Bleed eSports' official website using Next.js, React, TypeScript, and Tailwind CSS, enhancing the brand's digital footprint and user engagement.
- Engineered an advanced admin panel with [Tina.io](https://tina.io) - a headless CMS, significantly streamlining content updates and management efficiency for team rosters and news sections.
- Implemented Shopify integration, boosting e-commerce capabilities and facilitating direct merchandise sales.

Staking Transaction Reconciliation System on NEAR Protocol (Warburg Serres)

July 2023

- Built a Rust-based app on NEAR Protocol to fetch staking transaction data and reconcile it with internal records, automating the tracking process for Warburg Serres' crypto fund.
- Integrated Snowflake for managing staking transaction data and implemented an automated reconciliation process, reducing manual effort by 60%.
- Improved data accuracy by 25%, ensuring compliance with regulatory and financial reporting standards for the fund.

Frens Protocol – A Decentralized Game Launcher

September 2022

- Developed a decentralized Steam like dApp where you can add your friends and connect with them seamlessly over different games, which are curated and onboarded through DAO governance. Built the project at Hack Boston, a 36-hour blockchain oriented hackathon at Harvard. Won 3rd place in 3 chains: BNB Chain, Klaytn and Cartesi.

PGP Encryption and Decryption Utility

April 2022

- Developed a secure Node.js utility for PGP encryption and decryption using the OpenPGP.js library, enabling users to encrypt, decrypt, sign, and verify messages and files, ensuring data privacy and integrity.
- Integrated key management functionality - a keyring allowing users to generate, import, and export PGP keys.

AWS Serverless Web Application

January 2022- May 2022

- Developed a Node.js-based serverless web application for email verification, utilizing AWS SES, hosted on EC2 with infrastructure as code (IaC) deployment managed via AWS CloudFormation and Terraform, and CodeDeploy for CI/CD.

10k NFT Collection – [Syndicate of Beasts](https://syndicateofbeasts.com)

June 2021 - August 2021

- Bootstrapped and launched a 10,000-piece NFT collection, overseeing the end-to-end process from concept to deployment on Ethereum using the ERC-721 token standard using OpenZeppelin libraries.
- Implemented randomized generation of NFT traits, set up metadata storage on IPFS, and managed the deployment of the project's website on a self-hosted Linux VPS, demonstrating blockchain project management.

Automated Brain Tumor Segmentation using GAN Augmentation

November 2020 - April 2021

- Developed a novel software algorithm segmenting brain tumors from MRIs, by employing deep learning using CNN with ResNets and Generative Adversarial Networks (GAN) for data augmentation.
- Improved the Optimized UNET Dice Coefficient to 0.93, surpassing the base paper's score of 0.78, and authored a conference paper published in [Springer Nature book series "Lecture Notes in the Network and Systems"](https://www.springer.com/nature/book-series/9781493998224)

Finger Detection using OpenCV

March 2020

- Created a program using OpenCV, a python library for computer vision to implement Hand/Finger recognition which can recognize the number of fingers from the segmented hand region using the Convex Hull of a person's hand.
- Creatively generated a use case where the user is able to play the chrome dinosaur game with their hand gestures.

Certifications

- [Generative AI with Large Language Models, DeepLearning.AI, AWS, Dec, 2023 - Coursera](https://www.coursera.org/learn/generative-ai-with-large-language-models)
- [Introduction to TensorFlow for Artificial Intelligence, Machine Learning and Deep Learning, DeepLearning.AI, June, 2020](https://www.coursera.org/learn/introduction-to-tensorflow-for-artificial-intelligence)
- [Java for Android, Vanderbilt University, May, 2020 - Coursera](https://www.coursera.org/learn/java-for-android)
- [Applied Social Network Analysis in Python, University of Michigan, May, 2020 - Coursera](https://www.coursera.org/learn/applied-social-network-analysis-in-python)
- [Advanced Styling with Responsive Design, University of Michigan, November, 2019 - Coursera](https://www.coursera.org/learn/advanced-styling-with-responsive-design)