Nakshatra Tondepu

Aspiring Software Engineer | Quantum Computing Enthusiast | Purdue CS Undergrad

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PROFESSIONAL SUMMARY

Sophomore CS major at Purdue University passionate about software development, quantum computing, and AI. Currently contributing to EduVerse's secure coding sandbox and building open-source tools like a Quantum Circuit Visualizer using Qiskit. Experienced in full-stack development, data visualization, and research-driven engineering. Actively exploring opportunities to build educational technologies, solve complex computing problems, and collaborate on impactful software products.

KEY SKILLS

Data Analysis & Visualization

Tableau | Power BI | Statistical Analysis | Data Management

Programming

Python | Java | R | C

Machine Learning & AI

scikit-learn | TensorFlow | Deep Learning | NLP

Quantum Computing

Qiskit | IBM Quantum Lab | Quantum Algorithms | Bloch Sphere

Frameworks & Tools

Flask | Streamlit | Plotly | Three.js

Development & Collaboration

Git | Jupyter | REST API | SQL

EDUCATION

BACHELOR OF SCIENCE IN COMPUTER SCIENCE

Expected Graduation 05/2028

PURDUE UNIVERSITY, West Lafayette, Indiana

Key Courses: Object-Oriented Programming, Data Science, Programming in C, Critical Thinking & Communication

EXPERIENCE

SOFTWARE ENGINEER

05/2025 – Current

EDUVERSE

Engineered and tested a secure sandbox environment to execute user-submitted code and validate outputs against expected results from structured JSON test cases. Enhanced code evaluation workflows by integrating automated output matching and error handling, contributing to scalable and reliable academic integrity tools.

Python Security Testing JSON Code Execution

PROJECT MANAGER

03/2025 – Current

PURDUE UNIVERSITY

Engineered a full-featured Streamlit dashboard for Tree Lafayette using Python and Plotly, enabling real-time analysis of urban tree survival, planting trends, and site-level statistics. Implemented modular data pipelines and interactive UI components to support CSV/XLSX uploads, dynamic visualizations, and correlation tools for scalable environmental data tracking.

Streamlit Plotly Python Data Visualization CSV/XLSX

UNDERGRADUATE RESEARCHER

08/2024 – 05/2025

PURDUE UNIVERSITY

Conducted data analysis using R and Python within Jupyter Notebooks, examining large datasets to extract meaningful insights that supported data-driven decision-making processes. Applied advanced statistical methods and data visualization techniques to detect trends and patterns, enhancing the effectiveness of research outcomes and facilitating informed decision-making. Delivered actionable findings through comprehensive reports and presentations, improving project workflows and contributing to strategic recommendations across various research initiatives.

R Python Jupyter Statistical Analysis Data Visualization

COMPUTER SCIENCE + BUSINESS INTERN

09/2021 – Current

INFOGRAVITY

Developed and tested software applications using Java and Python, enhancing functionality and performance to meet project requirements. Collaborated with cross-functional teams to research, analyze, and document system requirements, ensuring alignment with business objectives and

facilitating seamless project execution. Performed debugging procedures to identify and improve software reliability and user satisfaction.

Java Python Software Development Team Collaboration Debugging

INTERN

07/2023 – 08/2023

OFFICE OF REPRESENTATIVES JENNIFER WEXTON

Collaborated with cross-functional teams to develop comprehensive social media strategies, leveraging data analysis to enhance public engagement and outreach efforts. Conducted in-depth research on industry trends and competitor strategies, utilizing data-driven insights to inform decision-making and policy development.

Data Analysis Research Social Media Policy

QUANTUM COMPUTING INTERN

01/2020 – 06/2023

QUANTUM COMPUTING UK

Acquired foundational knowledge in quantum mechanics and linear algebra to comprehend qubit behavior, enhancing the ability to develop and implement quantum algorithms effectively. Authored and published insightful articles on quantum computing topics on LinkedIn, demonstrating the ability to communicate complex concepts to a broader audience and contributing to the dissemination of knowledge in the field. Developed and executed quantum programs using IBM's Qiskit framework, gaining hands-on experience with quantum supercomputers and showcasing proficiency in quantum programming and problem-solving.

Qiskit Quantum Algorithms Technical Writing IBM Quantum Linear Algebra

PROJECTS

Qiskit Visualizer

05/2025

Built an interactive, browser-based quantum circuit simulator using React, Three.js, Flask, and Qiskit, featuring real-time Bloch sphere animations, drag-and-drop circuit design, and probability visualization. Enabled hardware vs. simulator comparisons and multi-qubit analysis to support hands-on learning, with planned features including tutorial modes, noise modeling, and circuit optimization.

React Three.js Flask Qiskit Quantum Computing

MedLens

04/2025

Associated with Purdue University. Designed and built MedLens, a browser-based tool that uses OCR and language models to extract, summarize, and flag medical report data in plain English, with text-to-speech and Spanish translation. Implemented a privacy-first architecture by running all features client-side, including PDF parsing, OCR, summarization, symptom checking, and downloadable doctor question generation. Enhanced accessibility and user engagement through features like voice-based summaries, a multilingual interface, a customizable symptom checker, and exportable summaries for patient-doctor communication.

JavaScript OCR NLP Text-to-Speech Privacy-First

Social Media Application Project

08/2024 - 12/2024

Associated with Purdue University. Developed a Java-based social media app with features like real-time messaging, friend management, group chats, and secure logins using hashed and salted passwords. Built a multithreaded server and a user-friendly GUI client to handle multiple users simultaneously, ensuring smooth and efficient interactions. Set up a secure database for data storage and user authentication, focusing on scalability, reliability, and privacy to deliver a modern communication platform.

Java Multithreading GUI Database Security

PUBLICATIONS

"How Have Teaching Methods in the English Department in Various LCPS Changed Since ChatGPT Has Emerged?"

International Journal of Innovative Science and Research Technology (IJISRT), vol. 4, no. 254, 2024, pp. 2909-2918

DOI: 10.38124/ijisrt/IJISRT24AUG1110
Accessed: https://www.ijisrt.com/how-haveteaching-methods-in-the-english-department-in-various-lcps-changed-since-chatgpt-has-emerged-4254