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**: Skilled in extracting insights and creating dashboards with Tableau and Power BI.
- **Programming**: Python, Java, R, C for data analysis, scripting, and development.
- **Statistical Analysis & Data Management**: Proficient in statistical methods, SQL, and data organization.
- **Machine Learning & Deep Learning**: Experience with scikit-learn and TensorFlow for model building and deployment.
- **Quantum Computing**: Knowledge of quantum algorithms and programming using Qiskit and IBM Quantum Lab; Bloch sphere simulation.
- **Frameworks & Tools**: Flask, Streamlit, Plotly, Three.js for interactive web apps and visualizations.
- **Development & Collaboration**: Git, Jupyter notebooks, and REST API integration.

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.

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

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.

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

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.

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

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.

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.

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.

PUBLICATIONS

Tondepu, N. "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