

# Sindhu Vadapalli

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## EDUCATION

<b>Arizona State University</b> <i>Master of Science in Computer Science: with thesis   GPA: 4.0</i>	Expected Dec 2026 Tempe, AZ
<b>Arizona State University</b> <i>Bachelor of Science in Computer Science: Minor in Statistics   GPA: 4.0</i>	Aug 2021 – May 2025 Tempe, AZ

## EXPERIENCE

<b>Research Assistant</b> <i>Self-Organizing Particle Systems Lab, ASU</i>	Sep 2024 – Present Tempe, AZ
<ul style="list-style-type: none"><li>Developed and evaluated <b>reinforcement learning</b> rollout algorithm heuristics in Python to find near-optimal solutions to the <b>NP-hard</b> Traveling Salesman Problem.</li><li>Implemented and compared an auction-based heuristic to the greedy nearest-neighbor heuristic across 70+ TSPLIB instances, achieving a 2.5% average cost improvement in 85% of cases.</li><li>Visualized performance trends and comparative outcomes using <b>Matplotlib</b> and <b>Pandas</b> to support analysis.</li><li>Automated large-scale parallel runs on ASU's Sol supercomputer by generating 100+ <b>SBATCH</b> job scripts with a custom <b>Bash</b> driver script, reducing job setup by 90%.</li></ul>	
<b>Software Engineering Intern</b> <i>Hidden Gemz</i>	Aug 2024 – May 2025 Remote
<ul style="list-style-type: none"><li>Designed a collaborative filtering recommendation engine using Pandas, NumPy, and Scikit-learn to deliver real-time personalized suggestions.</li><li>Integrated the <b>Google Maps API</b> to calculate distance and travel time based on user location and transportation mode. Streamlined API and <b>PostgreSQL</b> database interactions to reduce latency and improve scalability.</li><li>Used <b>GitLab</b> for version control and <b>Agile</b> development practices, collaborating via <b>Taiga</b> storyboards to track user stories and tasks across a 4-person capstone group.</li></ul>	
<b>Research Assistant</b> <i>The Virtualized Infrastructures, Systems, and Applications Lab, ASU</i>	May 2024 – Dec 2024 Tempe, AZ
<ul style="list-style-type: none"><li>Assisted in developing machine learning models for stress prediction using biometric data (MET) from over 6000 Fitbit samples collected from police cadets.</li><li>Improved model accuracy from 68.83% to 79.75% through hyperparameter tuning and effective interval identification. Conducted data preprocessing, including cleaning and feature extraction, utilizing <b>Pandas</b>, <b>NumPy</b>, and <b>scikit-learn</b>.</li></ul>	

## PROJECTS

<b>Cookin: your AI chef buddy!</b>   <i>React native, RN Executorch, LLaMA 3 model</i>	June 2025 – July 2025
<ul style="list-style-type: none"><li>Developed an AI-powered cooking app using <b>React Native</b> and Executorch to simplify meal planning.</li><li>Deployed an on-device <b>LLaMA 3</b> model to generate curated recipes based on user input. Integrated speech-to-text (STT) using react-voice, enhancing accessibility for diverse user needs.</li><li>Prompt engineered to fine-tune recipe quality, balancing accuracy and creativity. Published to the App Store with optimized performance and responsive UI, resulting in 15+ organic downloads.</li></ul>	
<b>LingoVerse</b>   <i>MongoDB, Express.js, React, Node.js</i>	Aug 2024 – May 2025
<ul style="list-style-type: none"><li>Built a full-stack language learning application enabling users to create, organize, and review flashcards.</li><li>Engineered secure authentication system using bcrypt to hash passwords and safeguard user credentials.</li><li>Developed <b>RESTful API</b> endpoints with Express.js to manage account creation and user authentication. Used Git for version control and led an Agile team, coordinating 2-week sprints to drive consistent progress.</li></ul>	

## TECHNICAL SKILLS AND AWARDS

**Languages:** Java, Python, C/C++, SQL, C#, JavaScript, HTML/CSS, Swift  
**Frameworks:** React, Node.js, Flask, JUnit, PyTorch, React Native, .NET  
**Developer Tools:** Git, Jupyter Notebook, VS Code, Visual Studio, Eclipse  
**Awards:** Dean's List, FURI award, National Science Foundation REU award, ASU NAMU - Provost's Award