

Karthikeya Telapalli

Tampa, FL | 813-894-2873 | Willing to Relocate | [LinkedIn](#) |
karthikeyatelapalli@usf.edu

EDUCATION

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|---|------------------------------|
| University of South Florida <i>BS in Quantitative Economics and Econometrics & Computer Science</i> | Tampa, FL Dec 2025 |
| <ul style="list-style-type: none">● GPA: 3.84 (Senior Year)● Recipient of USF Green and Gold Directors award (\$24000) | |

WORK EXPERIENCE

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| Teaching Assistant (Pre-Calculus) <i>University of South Florida</i> | Tampa, FL 07/2024 – current |
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- Guided students through challenging Pre-Calculus concepts, facilitated team-based activities, and provided support during assignments and problem-solving sessions to enhance understanding.
- Assisted professors by grading coursework, preparing instructional materials, and managing classroom needs to ensure smooth course execution.
- Fostered collaboration and engagement by clarifying doubts, promoting interactive learning, and enhancing student academic success through structured support.

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| Learning Teams Leader (General Physics 1) <i>University of South Florida</i> | Tampa, FL 04/2023 – 05/2025 |
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- Mentored first-year engineering students by assisting with physics concepts and facilitating weekly Learning Team course (EGN 4930) sessions with interactive group problem-solving activities.
- Organized and led structured study sessions to help students prepare for upcoming exams, reinforcing key concepts and problem-solving techniques.
- Conducted one-on-one meetings throughout the semester, providing personalized guidance and academic support to enhance student learning and success.

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| Research Assistant <i>University of South Florida</i> | Tampa, FL 10/2022 – 05/2024 |
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- Employed Agile methodologies to orchestrate the development of a neural network algorithm by leveraging convolutional neural networks (CNNs) to analyze intricate Gut microbiome data, culminating in the successful prediction of new data with an impressive 90% accuracy rate..
- Spearheaded a high-caliber team in the development of a cutting-edge 3D Molecular Dynamics simulator utilizing CUDA technology. Designed and implemented the Verlet integration method to accurately model the dynamic motion of N particles within a 3D system.
- Integrated molecular dynamics simulations with Apache Spark for distributed processing and leveraged JCuda for GPU acceleration, encapsulated as a Spring Boot-based web service

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| Teaching Assistant (Calculus I) <i>University of South Florida</i> | Tampa, FL 09/2022 – 05/2023 |
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- Assisted Professor in grading assignments and tests, providing timely and constructive feedback to over 700 students.
- Proctored examinations, ensuring academic integrity and a conducive environment for test-taking

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| Research Volunteer <i>University of South Florida</i> | Tampa, FL 08/2022 – 03/2023 |
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- Spearheaded the development of a WebAR (Web-based Augmented Reality) application for exposure therapy, designing a user-friendly interface accessible via web browsers without requiring downloads or installations, specifically targeting Arachnophobia (fear of spiders).
- Collaborated with a multidisciplinary team to integrate clinical requirements, ensuring the platform effectively simulated phobia-inducing stimuli for therapeutic use while overcoming technical and user-experience challenges
- Managed the proof-of-concept stage, refining the platform's functionality and advancing it toward future development.

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| Research Volunteer <i>Undergraduate Research Society</i> | Tampa, FL 12/2022 – 02/2023 |
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- Collaborated with team members to analyze a dataset of 1,000 articles, refining it to a subset of 100+ articles, and conducted in-depth research on 23+ articles related to BRCA1 and BRCA2 mutations in breast cancer
- Collected and analyzed crucial data and statistics, applying advanced statistical tools and techniques to identify patterns and derive meaningful insights
- Developed and presented key findings, demonstrating strong communication skills and effectively conveying scientific information to a broad audience

Leadership Experience

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| Founder & CEO <i>Slatewing</i> | Tampa, FL 10/2023 – 05/2024 |
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- Conceptualized an insurance platform using blockchain for automated claims, fraud prevention, and policy

customization.

- Pioneered a peer-to-peer insurance model for **decentralized risk pooling** and transparency. Led a multidisciplinary team, developed a business plan, and pitched to investors

Co-Founder & CFO

Anirudh International LLC

Tampa, FL

02/2024 – 12/2024

- Directed financial and operational strategies for a startup with a \$3,000 budget.
- Integrated **subsidiary projects**, including Digisolutions Private Limited, and managed financial closures during transitions.

Co-Founder & CEO

Digisolutions Private Limited

Tampa, FL

03/2024 – 12/2024

- Launched **Musical Miles**, analyzing ethnic diversity in songs on Spotify and Amazon Music, reaching 100+ users.
- Directed partnerships and oversaw three additional impactful projects.

Director

Open Understanding Foundation

Tampa, FL

06/2024 – 12/2024

- Designed and implemented **student outreach programs** on university admissions and educational strategies.

PROJECTS

Financial Analysis and Valuation of Starbucks Corporation (May 2024)

- Developed a comprehensive equity research model, analyzing Starbucks' revenue growth, profitability, and operating efficiency over five years to guide investment decisions.
- Conducted valuation using Discounted Cash Flow (DCF) and Comparable Company Analysis (CCA), deriving an intrinsic valuation of \$84 per share

Global Economic Impact Analysis of Renewable Energy Adoption (Dec 2023)

- Analyzed the economic effects of renewable energy adoption globally, focusing on sectors like **labor markets**, etc.
- Developed a **Panel Data Regression Model** to evaluate GDP growth impacts across regions, incorporating renewable investments, policies, and technologies.

Weekly Price Prediction Tool (Oct 2022)

- **Designed and implemented a weekly stock price forecasting model** by integrating **random forests with neural networks**, achieving a **75% prediction accuracy**, validated through **weekly performance metrics** like MSE and MAPE.
- Conducted **rigorous weekly validation** and **stress tests** simulating **major market fluctuations**, ensuring the model's **reliability and adaptability** in diverse market conditions.

LLM-Based Sentiment Analysis & Tree-of-Thought Reasoning (Dec 2024)

- **Developed and optimized sentiment classification models** using **Large Language Models (LLMs)**, integrating zero-shot, few-shot, and chain-of-thought prompting.
- **Implemented Tree-of-Thought (ToT) reasoning**, combining LLM-generated reasoning steps with search algorithms to improve multi-step decision-making.
- **Benchmarked LLM performance against traditional ML models**, analyzing prompt variations, temperature settings, and instruction tuning for enhanced accuracy.

[GitHub](#) Projects & Software Development

- **Developed 30+ projects** covering **machine learning** (supervised & reinforcement learning), **web development**, and **augmented reality applications**.
- **Built AI-driven applications**, including reinforcement learning agents, sentiment analysis models, and LLM-based tools.
- **Created utility tools**, such as **general-purpose calculators**, **unit converters**, and **automation scripts** for everyday computing tasks.

SKILLS & CLUBS

- **Technical:** Python, R, C, C++, **SQL**, TensorFlow, STATA, **Excel** (Advanced), Data Visualization (**Power BI**, Tableau), Proficient in MS Office Suite, Economic Analysis, **Machine Learning**, Algorithms, Risc-V, **Verilog**.
- **Statistics and Economics:** **Financial Modeling**, Forecasting, DCF Valuation, **Statistical Modeling**, **Investment management**
- **Soft Skills:** **Leadership**, Strategic Thinking, Collaboration, Analytical Problem Solving, Communication, Mentorship, Cultural Sensitivity, **Conflict Management**, Innovative, **Emotional Intelligence**, Critical Thinking.
- Member of **Brain-Computer Interface Club**, **SASE**, **DSC**, **Investment Club**, and **SHPE**.
- **Certifications:** Goldman Sachs – Risk Virtual Experience (Forage, Jun 2025), Citi – Personal Banking Virtual Experience (Forage, Jul 2025), **Bloomberg Market Concepts** (Bloomberg, 2025), Power BI Essential Training (NASBA, Jan 2025)