UMESH KUMAR

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EDUCATION

University of South Florida (USF), Tampa, FL **B.S in Computer Science | May 2026**

Recipient of USF's Green and Gold Directors' Award | Member of USF Dean's List

Relevant Coursework: Data Structures, Analysis of Algorithms, Program Design, Discrete Structures, Linear Systems, Probability & Statistics, Programming Concepts

TECHNICAL SKILLS

Programming: Python, SQL, C, C++, HTML/CSS, JavaScript

Tools/Libraries: React, Node.js, MySQL, Pandas, NumPy, Matplotlib, Seaborn, IBM Cognos, Excel, .NET, PostgreSQL, Docker, Kubernetes, Git, AWS (EC2, S3), PowerBI, Jupyter Notebook

Concepts: Data Wrangling, EDA, Data Cleaning, Visualization, Statistical Analysis, SQL Joins & Aggregations, Dashboards

Certifications: IBM Data Analyst Professional Certificate (Experience in Python DB API, KPI tracking in Cognos)

PROJECT EXPERIENCE

Bulls Sublease (Node.js, React, Firebase, AWS (EC2, S3, CloudFront) | Site

- Built and launched a full-stack housing platform using Node.js, React, and Firebase that enables students to post and find apartment subleases, featuring secure user authentication, live messaging, and interactive map-based listings
- Improved application performance by cutting page load time from 5 seconds to 1.1 seconds through deploying the backend on AWS EC2, hosting the frontend on S3, and distributing content globally via CloudFront CDN

Systems & Algorithms Portfolio (Python, C, C++) | GitHub

- Developed 15+ structured programming projects demonstrating OOP, file I/O, modular design, and memory management
- Implemented algorithmic solutions including Dijkstra's shortest path, Sieve of Eratosthenes, and Pythagorean triple
- Applied pointer arithmetic, dynamic memory allocation, and structured data parsing in C.
- Built command-line simulations and logic-based games incorporating recursion, probability models, and input validation

Smart Stock Visualizer (React, C#/NET) | GitHub

- Built interactive candlestick charting system with financial pattern recognition rendering real-time price movements
- Engineered pattern recognition engine using polymorphism and inheritance to detect doji, hammer, engulfing, formations
- Separated UI rendering logic from financial data processing to create a cleaner, more maintainable application structure

PAAL – AI Assisted Learning Platform (React, C#/NET) | Site

- Developed a responsive React-based frontend with structured component architecture and controlled state management
- Integrated the OpenAI API to support dynamic quiz generation and real-time conversational academic assistance
- Designed and refined prompt structures to generate context-aware responses aligned with user-selected topics

WORK EXPERIENCE/LEADERSHIP

Peer Tutor — Data Structures & Programming **University of South Florida • Tampa, FL | Dec 2022 – May 2024**

- Improved student outcomes through mentoring in Data Structures, Algorithms, and core programming fundamentals.
- Conducted 1:1 and small-group sessions in Python and C++ covering OOP, memory concepts, and debugging practices.
- Guided students through Big-O analysis, recursion patterns, and algorithm design thinking.
- Helped debug academic projects by identifying logic errors, edge cases, and runtime issues.

Technical Team Member — ACM (USF Chapter) **Tampa, FL | Jun 2023 – May 2024**

- Led and supported student software projects and prepared demos for engineering showcases and expos.
- Built a Discord bot using discord.py with LLM API integration to automate FAQs and streamline communication.
- Coordinated cross-club collaboration efforts to expand participation and technical outreach.

Student Senator — USF Student Government **Tampa, FL | May 2022 – May 2023**

- Helped oversee allocation of $200K+ in student organization funding, reviewing requests for completeness
- Served on ethics committee to maintain governance standards.