SAI KARTHIK BATTULA

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EDUCATION

The University of Texas at Dallas, Richardson, TX *May 2028*

Bachelor of Science in Computer Science, Incoming Freshman

Relevant Coursework: *Programming Fundamentals (Language C)*

Emerson High School, McKinney, TX *May 2024*

Graduated with Foundation High School Program - Distinguished LVL, GPA: 3.8

Relevant Coursework: *AP Computer Science, Internet-working, and Cybersecurity*

SKILLS

Technical Skills: *Exposed to C/C++, Python, Java, HTML*

Certifications:

- **CCNA: Introduction to Network**
  - expertise in IP addressing, Ethernet protocols, and configuring connectivity between switches, routers, and end devices
  - 14 hours of hands-on experience in 54 labs using Cisco hardware or Packet Tracer.
- **IT Specialist: Networking:**
  - demonstrates foundational knowledge and skills in TCP/IP, networking services, topologies, and troubleshooting in both wired and wireless environments.
- **IT Specialist: Cybersecurity**
  - understands key security paradigms and terminology, recognizes the importance of security and its impact on businesses, and is committed to educating others about security concerns.
- **IT Specialist: Network Security:**
  - demonstrates foundational security knowledge and skills, including core security principles, operating system security, network and device security, and secure computing practices.

PROJECTS

Quantum Cryptography: Impact on American Encryption in the Tech Age

- Conducted experimental research on cryptographic algorithms to assess quantum resistance and performance metrics.
- Utilized Google Colab for standardized testing with access to GPU and CPU resources.
- Selected representative algorithms: quantum (Shor's, Grover's), Symmetric (AES, Twofish), Asymmetric (RSA and ECC), and quantum-resistant (Kyber, SPHINCS).
- Simplified Python code for efficient experimentation and data collection.
- Recorded precise time metrics for encryption and decryption using Python timing functions.
- Monitored system metrics (CPU, disk utilization) with built-in tools and custom code.
- Calculated throughput based on data volume and processing time for comparative analysis.
- Conducted thorough comparisons across algorithms for encryption time, decryption time, and resource utilization.
- Ensured experiment reproducibility through multiple trials with different datasets.

EXPERIENCE

The University of Texas At Dallas, Richardson, TX June 2023 - July 2023

Cybersecurity Research Intern

- Executed comprehensive research on quantum computing, culminating in the development and delivery of a detailed critique paper and professional presentation
- *Acquired specialized knowledge in cutting-edge fields including quantum computing, cryptography, and blockchain*
- *Worked collaboratively with fellow interns to explore and understand complex concepts, effectively improving proficiency in industry-specific terminology and practical applications.*