Sathvik G Murthy

sathvik23@gmail.com ❖ +91 7358284475❖ Chennai, TN❖ US Citizen

WORK EXPERIENCE

University of Illinois Urbana-Champaign   **Jan. 2024 – Present**
Research Intern   *Chennai, TN*
- Building AI systems to optimize medical professionals' workflow and assist with diagnosis in India under the guidance of Dr. Chandrasekaran
- Investigating the human-computer interaction aspect of AI in Indian Healthcare to address current issues in the medical sector

PROJECTS

A Novel Authentication & Tamper Detection Scheme using ML based Watermarking   **June 2024 – Present**
Research Project   *Chennai, TN*
- Implemented watermarking techniques (IWT) to verify integrity and authenticity in digital multimedia (surpasses current watermarking techniques)
- Developed signal-processing based machine learning techniques to classify potentially malicious content as deepfakes
- Implementing hashing protocols and LZW compression to incorporate improved tamper detection and reversal in digital images

Machine Learning based Parkinson's Detection   **June. 2023 – Aug. 2023**
Research Project   *Chennai, TN*
- Developed an SVM/Random Forest approach to detect Parkinson's based on signal characteristics
- Achieved 90% accuracy on unseen test cases; incorporated a novel signal extraction process to obtain parameters for the ML model

Building an Elliptic Curve Cryptography System   **Oct. 2023 – Dec. 2023**
Research Project   *Chennai, TN*
- Developed and implemented an Elliptic Curve Cryptosystem from scratch using MATLAB
- The implemented protocol showed reduced latency for computation and high accuracy for encryption and decryption

EDUCATION

College of Engineering Guindy, Anna University   **2021-2025**
Bachelor of Engineering, Electronics & Communication Engineering
- CGPA: 8.8/10
- Relevant Course Work: Wireless Communication, Digital Signal Processing, Cryptography and Network Security, Digital VLSI, Artificial Intelligence & Machine Learning

The School, KFI   **2014-2021**
Council for The Indian School Certificate Examination
- Indian School Certificate (ISC) Examination: 97%
- Indian Certificate of Secondary Education (ICSE): 92%

SKILLS

- **MATLAB:** Two years of experience with MATLAB software in filter design, wireless communication simulations, and image processing applications.
- **Verilog HDL:** Extensively worked with writing Verilog code for FPGAs encompassing a wide range of application