Sumanth Reddy Cherupally

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INTERESTS

I am looking for Internship opportunities for the Summer of 2022. Open to research and development positions in Robotics, Computer Vision, Software Development and Machine learning in general.

EDUCATION

University of California San Diego   San Diego, California, United States
Master in Electrical and Computer Engineering (Robotics)   2021 - 2023 (Expected)
Indian Institute of Technology Hyderabad   Hyderabad, Telangana, India
Bachelor of Technology in Electrical Engineering   GPA: 8.76/10.0   2017 - 2021

TECHNICAL SKILLS

Programming Languages: Python, C++, Golang (basic)
ML frameworks: Tensorflow, Pytorch
Certifications: Deep learning specialization from deeplearning.ai (Coursera),
Cybersecurity for Business specialization from University of Colorado (Coursera).
Other Tools: Wireshark, Matlab, Dockers.

PUBLICATIONS

1. S. R. Cherupally, S. Boga, P. Podili and K. Kataoka, "Lightweight and Scalable DAG based distributed ledger for verifying IoT data integrity," 2021 International Conference on Information Networking (ICOIN), 2021

WORK EXPERIENCE

Research Assistant   Aug 2020 − May 2021
Mentor: Dr. Sumohana S. Channappayya, Associate Professor, Dept of Electrical Engineering, IITH
- Worked on occlusion detection methods on traffic camera generated images. Reviewed many segmentation, Object detection and depth estimation models for this purpose.

BNY Mellon Technology   May 2020 − July 2020
Software Development Intern
- Worked as a summer intern in a team to migrate an existing internal dashboard from Adobe flash to Angular. Had to redesign and implement from scratch.

Research Assistant at Pranet Lab, IITH   May 2019 − April 2020
Mentor: Dr. Kotaro Kataoka, Associate Professor, Dept of Computer Science and Engineering, IITH
- My work here mainly includes blockchain protocols and their feasibility of application to IoT.
- First authored a paper where we designed and implemented our own IoT friendly blockchain protocol.

PROJECTS

Surveillance Camera Obstruction Detection
Mentor: Dr. Sumohana S. Channappayya, Associate Professor, Dept of Electrical Engineering, IITH
- Using various Deep learning techniques like Semantic segmentation, Depth estimation to flag occluded camera images.
- Developed a model to consider manual feedback of flagged images and modify the algorithm threshold.
- Worked in collaboration with Honeywell India.

Introducing blockchain for Inter domain route verification (BGP)
Mentor: Dr. Kotaro Kataoka, Associate Professor, Dept of Computer Science and Engineering, IITH
- Extending on our work of DAG based distributed ledger we are addressing the route verification problem in BGP used by Autonomous systems(AS).

Lightweight Scalable DAG based blockchain for verifying IoT data integrity
Mentor: Dr. Kotaro Kataoka, Associate Professor, Dept of Computer Science and Engineering, IITH
- Proposed and developed a dag blockchain system for IoT data integrity verification.
- Accepted at **ICOIN 2021** - 35th International conference on Information Networking.
- Presented at CEATEC 2019, Japan.

Remote battery monitoring system   Nov 2018
As a part time SD intern at SNF consultancy
- Developed a battery monitoring system which can work with constrained resources - Bandwidth, Power
- Included programming ESP32 micro controllers using the open source painless library.
- Click for poster.

RELEVANT ACADEMIC COURSE WORK

Courses completed[Grade]: Electric Circuits[A], Analog Electronics[A-], Network Theory and synthesis[A-], Applied Digital Logic Design[A-], Digital Signal processing[A-], Advanced DSP[A], Digital Modulation Techniques[A-], Basic Control Theory[B], Control Systems[A-], Data Analytics[A-], Data Science Analysis[A-], Engineering Electromagnetics[A], Analog Electronics-II[A-], Embedded programming[A-], Digital System Design[B], Signal and Communications[B], Power Electronics[A-], Smart Grid[A-], Renewable Energy and Power systems[A].

EXTRA-CURRICULAR ACTIVITIES

Class representative of my batch during 2017-18.
General Knowledge club captain at school.