





Education

PhD | Computer Science

University of Southern California |
2021 - Present

- CGPA: 3.92/4.0
- Member of Autonomous Networks Research Group , led by Prof. Bhaskar Krishnamachari 

BTech | Information Technology

IIIT Allahabad | 2014-2018

- CGPA: 9.37/10
- Graduated with Honors

Research Areas

- Computer Networking
- Blockchain
- Internet of Things

Skills

Languages

Proficient: Python • C • C++

Experienced: Java • MATLAB

Technologies

Blockchain

Frameworks & SDKs

Android Studio • OpenGL • SciPy

Tools

GDB • Linux shell scripting •

Wireshark • libpcap

Coursework

Networks & Systems

Advanced Computer Networking
Autonomous Cyber-Physical Systems
Applied Cryptography
Network Security
Operating Systems

Algorithms & Software Engg

Advanced Analysis of Algorithms
Object Oriented Methodologies
Software Engineering

Cognitive Science & AI

Cognitive Science
Natural Language Processing
Artificial Intelligence

Experience

University of Southern California | Graduate Teaching Assistant

Jan 2021 - Present

- Classes taught: Fundamentals of Computation (Spring '21), Introduction to Algorithms and Theory of Computing (Fall '21) and Introduction to Computer and Network Security (Spring '22)
- Responsibilities include leading weekly discussion and lab sessions, designing problems and holding office hours


Arista Networks | Software Engineer

Jan 2018 - Dec 2020

- Developed Layer3 routing software, primarily enhancements to OSPF and OSPFv3 protocol implementations
- Involved in all stages of software development process including design, development, deployment, debugging and maintenance

Yonsei University, Incheon | Research Intern

Summer 2017

- Designed and implemented a Blockchain-based protocol for intelligent autonomous vehicles to exchange messages and purchase services.
- Analyzed the concept of blockchain branching to tackle scaling limitations
- Results were published in Madhusudan Singh and Shiho Kim, "Branch based blockchain technology in intelligent vehicle," *Computer Networks*, 2018. 

Publications

- Sulyab Thottungal Valapu and Bhaskar Krishnamachari, "A Survey of Probabilistic Micropayment Schemes," *IEEE Blockchain Technical Briefs*, 2022 

Selected Projects

A Decentralized Review System for NFT Marketplaces

- Designed and implemented a blockchain-based decentralized review system suitable for Non-Fungible Token (NFT) marketplaces (pending publication)


Enhancing Statistical Machine Translation using reordering rules obtained through Data Mining techniques

- Enhanced existing English-Hindi SMT using reordering rules mined from parallel corpus

Character Recognition using Stroke identification from printed text

- Implemented stroke recognition using Expectation Maximization algorithm, and the resulting feature vector was used to build an OCR system

Activities

- Worked as Research Coach for the 2022 VSI program , an initiative by USC Viterbi School of Engineering to provide incoming first year students with an introductory research experience.

Awards

- Member of Dean's Merit List, IIIT Allahabad during undergraduate study
- Kerala State Champion in Maths Talent Search Exam, 2012