Vaibhav Sharan

602-566-1136 vaibharn@gmail.com linkedin.com/vaibharn github.com/vaibharn

Experience

Centre For Development of Telematics Sept 2021 – July 2023
Research Engineer *New Delhi, India*

- Developed and documented UDM, AUSF, and UDR Network Functions prototypes for the BSNL 5G project leveraging Open5GS and implementing 9+ interface messages following 3GPP specifications.
- Designed and built 4G Node HSS and 3G Node HLR for BSNL and TCS in the Indigenous 4G India Project, backed by the Government of India's Aatmanirbhar Bharat Scheme and has been deployed in 400+ regions in India.
- Designed and executed a multi-threaded HLR application architecture featuring a message queue, conducted load testing, and leveraged Docker scaling to improve performance by over 20x for 5 million subscribers in 2G/3G core solutions.
- Achieved National Centre for Communication Security certification for 4G LTE Node HSS by fulfilling security assurance requirements and relevant national and international standards.
- Researched, developed, and documented software requirements for DevOps tools, applications, product prototypes, and systems for telecom solutions paving way for commercial deployment.

NatureDots Jan 2020 – Aug 2020
Innovative Systems Engineer *New Delhi, India*

- Designed, developed, and deployed a predictive information system on AWS to build sustainable efficient fisheries, enhancing ecological and water resource quality powered by machine learning models for data analysis.
- Created backend (Django), database (MongoDB), and a management dashboard. Set up REST APIs on ThingsSpeak and UbiDots for IoT devices and other sensors.
- Performed a key role in designing the architecture of project, and contributed to presentations for Innovation and Start-Up Funding events obtaining over $100,000 in grants.

Bharat Electronics Limited May 2019 – July 2019
Summer Intern *Ghaziabad, India*

- Developed a Remote Desktop Sharing and Access application to be deployed on Indian Naval ships (Python & UNIX).
- Developed a Real-time Radar Information Visualization and Analysis software incorporating Data science models.
- Created and tested prototypes for the Software Development team for Radar Data Collection in Indian Navy ships.

Education

Arizona State University May 2025
Master of Science in Computer Science *Tempe, Arizona*

- **Teaching Assistant:** CSE 534: Advanced Computer Networks
- **Relevant Coursework:** Advanced Computer Networks, Software Security, AI, Distributed OS, Statistical ML

Netaji Subhas University of Technology 2017 - 2021
Bachelor of Engineering in Computer Engineering *New Delhi, India*

Projects

Illustrations using Generative Adversarial Nets

- Utilized GAN and CNN techniques to automate the generation of facial images.
- Trained DCGAN models on specialized animated facial image datasets. Enabled automatic creation of animated character faces based on input facial feature tags.

Image Super Resolution using CNN

- Devised and implemented a deep learning model employing Convolutional Neural Networks (CNN) to upscale image resolution. Employed a range of optimization techniques and built a model using TensorFlow.

CAPTCHA Recognization and Solving using CNN

- Implemented Convolutional Neural Networks for recognition and resolution of Captcha images utilizing TensorFlow and OpenCV.

Technical Skills

Telecom & Networking: 5G, 4G, 2G/3G Core networks, Socket Programming, Computer Networks, Wireshark, Spirent Landslide
Programming Languages: C, C++, Python, Java, Shell scripts
Software Development: RESTful APIs, Django, SQL, Multithreaded development, Object-Oriented Programming, System Design, Software Testing, Git, CICD, Docker
AI/ML: CNNs, GANs, Pattern Recognition, Machine Learning models, TensorFlow, Keras, Bokeh, Matplotlib, Seaborn, R
Databases: MongoDB, Redis, Hazelcast, eXtremeDB
Cloud & DevOps: AWS, Docker, CI/CD Pipelines
Tools & Technologies: Valgrind, GDB, Postman, Jira, Arduino, IoT devices APIs
Concepts: Computer Architecture and Organization, Advanced Algorithms, Compilers