Subhash S

Computer scientist with a strong foundation in problem-solving and an ever-growing zeal to explore new domains and technologies. Effective collaborator with firsthand experience in leading and working in teams.

subhashs0620@gmail.com
Bengaluru, Karnataka 560109
(+91) 9188230955
subhash011.github.io/
linkedin.com/in/subhashs0620
github.com/subhash011

Education

Indian Institute of Technology (IIT), Palakkad — **Kerala, India**
Bachelor of Technology (B. Tech) – Computer Science and Engineering — 07/2018 – 05/2022

- CGPA: 8.69/10
- Networking team lead for a collaborative platform.
- Frontend Lead and Full-stack developer at Alumni Cell.
- NSO Coordinator for Table Tennis.

Work Experience

TCS Innovation Labs — **Bengaluru, Karnataka, India**
Research Intern — 06/2021 – 08/2021

- Performed a comparative study on code summarization using Deep Learning techniques
- Implemented efficient input pipelines and a baseline model using TensorFlow.
- Technologies: Compilers, Deep Learning, TensorFlow, Python.

nVipani Technology Solutions — **Bengaluru, Karnataka, India**
Quality Assurance Automation Engineer — 05/2020 – 07/2020

- Initiated the migration from manual to automated testing.
- Implemented e2e test cases for numerous modules.
- Setup auto-documentation for test reports to improve error detection.
- Technologies: Automation Testing, Protractor.js, Web Development.

TIMKEN India Ltd — **Bengaluru, Karnataka, India**
Application Engineer — 12/2019 – 12/2019

- Upgraded functionality of an internal web application.
- Improved internal communication by implementing various features in the application.
- Influenced the database design for additional features.
- Technologies: ASP.NET core, jQuery, SQL Server, Web Development.

Skills

Programming Languages	Python, C++, Java, TypeScript, Bash
Databases	MariaDB, MongoDB
Web Development	NestJS, ExpressJS, GraphQL, Angular, Nginx
Other Technical Skills	Flutter, Docker, Git, OpenCV, TensorFlow

Achievements

Semi-finalist at Swadeshi Microprocessor Challenge

- Ranked top 100 out of 6,000 teams.
- Developed a prototype of a driver attention analysis system for low-powered devices.

Finalist at IIT-K HCL Hack 2020

- Ranked top 100 out of 12,500 teams worldwide.
- Implemented robust and intelligent cyber-defense solutions for malware detection and DDoS attack detection.

Projects

Project Allocation Portal
- The official project allocation portal of IIT Palakkad.
- Manual project allocation is tiresome, and this solution reduces human efforts by over 90%.
- Gale-shapley algorithm is used to obtain a fair and stable allocation by considering preferences from both faculties and students.
- Technologies: Angular, ExpressJS, MongoDB, Nginx

Meet.me
- A desktop based collaborative discussion platform with whiteboard, screen-share, analytics and more.
- Led a team of 4 to develop the networking module of the app.
- Wrote design specification that included multiple design patterns for easy interfacing with other modules.
- Technologies: C#, .NET, NUnit.

Resource Management System
- A web and mobile application, mainly developed for managing resources at lab facilities.
- Involves various modules like authentication and authorization, inventory management, advanced booking etc.
- Provides a fine-grained control over user authorization with a graph capturing user information.
- Technologies: NestJS, GraphQL, Flutter, Angular, MongoDB.

Time Sync
- An application to assist users regulate screen time with the help of their peers.
- Developed for the final round of Hack-MIT 2020.
- Incentivizes users who spend lesser time on screen and allows users to keep track of their peers' screen time.
- Technologies: Flutter, Firebase

Driver Attention Analyzer
- This idea was among the top 100 out of 6000 ideas at a hackathon organized by MeitY.
- A low-cost solution, optimized for low-power devices, that continuously analyses the driver's facial expressions.
- Initial version could monitor driver's facial expressions at 8fps on Raspberry Pi.
- Technologies: Python, OpenCV

Malware Detection
- Machine learning application to differentiate between benign and malicious executables.
- Features were extracted from Portable Executable (PE) files and Cuckoo reports.
- Technologies: Python, Scikit-Learn, Pandas

DDoS Detection
- Detects DDoS attacks by analyzing packets captured.
- Features were extracted from pcap files.
- Technologies: Python, Scikit-Learn, Pandas

Tiger Compiler
- Compiles source code of Tiger language to Intermediate Representation (IR).
- Supports multiple data types, operators, and recursive functions.
- Provides utility functions like indentation and syntax-highlighting.
- Technologies: SML, ML-YACC, ML-Lex

RISC-V Simulator
- A pipelined RISC-V processor simulator with support for a large subset of the RISC-V instructions.
- All arithmetic and logical operations are supported.
- Supports load-store and partially supports branch operations.
- Tested with RISC-V instructions from C programs and assembly.
- Technologies: Verilog, RISC-V