Sai Sri Harsha SURABHI

Devops Engineer

Passionate developer with experience in Python, Linux, and test automation, with expertise in AWS-Devops.

✉ konnect.surabhi@gmail.com 🏠 Saxony, Germany
💻 Open to remote work 📍 Ritterstr. 16 09111 Chemnitz
🔗 https://sshsurabhi.netlify.app/ 📞 0176 83334794

WORK EXPERIENCE

Development Engineer

06/2021 - 06/2024 Moewe Optical Solutions Gmbh Mittweida, SN, Germany

- **Embedded Systems Development**: Configured custom Linux environments for embedded systems to enable hardware interaction and communication.
- **GUI Application Development**: Designed unified desktop applications using PyQt5 to consolidate functionalities and automate testing workflows.
- **Image Processing and Data Analysis**: Developed algorithms for laser projection error detection and performance evaluation using advanced image processing techniques.
- **Protocol and Hardware Integration**: Created communication protocols and tested electronic components using microcontrollers and industry-standard tools.
- **Version Control and Deployment**: Collaborated with teams using GIT for version control and streamlined application delivery through containerization.

- **Programming Languages**: Python, C, and C++ for developing software applications.
- **Frameworks and Libraries**: PyQt5 for GUI development and Scikit-Learn for machine learning.
- **Development Environments**: Visual Studio, Visual Studio Code, Ubuntu, and Xilinx Vivado/Vitis for software and hardware development.
- **Image Processing**: OpenCV for image analysis and processing tasks.
- **Networking and Communication**: Internet Protocol Suite (TCP/IP), UDP, Ethernet for data communication and server interactions.
- **Containerization and Automation**: Docker for application containerization, enhancing efficiency.
- **Version Control and Collaboration**: Git for version control and collaboration in Agile, ensuring teamwork.

Student Research Assistant (HI-Wi)

04/2020 - 09/2020 Technische Universität Chemnitz Chemnitz, SN, Germany

- **3D Hand Pose Estimation Testing**: Conducted comprehensive testing and evaluation of 3D hand pose estimation algorithms for accuracy and performance.
- **Ground-Truth Mask Creation**: Utilized the VGG annotator to create precise ground-truth masks for hands, enhancing dataset reliability.
- **Pipeline Validation**: Tested the hand pose estimation pipeline with diverse datasets, validating outputs against established ground truth values.
- **Data Optimization Research**: Investigated methods to reduce message data size, contributing to more efficient data transmission.
- **Accuracy Assessment**: Evaluated pixel (2D) and positional (3D) accuracy to ensure the reliability of hand pose estimation techniques.

Tools: Visual Studio Code, Ubuntu Linux, Windows, VGG Annotator.
Skills: Python3, OpenCV, Keras, PyTorch, Ubuntu, Pandas, Numpy, Matplotlib, Data Visualization, MS Office, Data Analysis.

Software Test Engineer

08/2012 - 09/2012 Caagnota Info Pvt. Ltd. Hyderabad, India
Project: Electronic Invoice Presentment and Payment (EIPP)

- **Test Case Development**: Created and executed comprehensive test cases for software function blocks, ensuring thorough validation of system functionalities.
- **Functional and System Testing**: Led the execution of Functional Testing, System Integration Testing, and Regression Testing, contributing to overall software quality assurance.
- **Error Analysis and Reporting**: Analyzed and documented error reports for failed test cases, facilitating prompt resolution and continuous improvement.
- **Team Management**: Coordinated team activities and managed project workflows, fostering effective collaboration within Agile frameworks.
- **Agile Methodologies**: Worked within Agile testing methods, adapting to dynamic project requirements and ensuring timely deliverables.

Tools: JIRA, Confluence, Slack, MS Office, Eclipse IDE, Visual Studio
Skills: Agile | SDLC | STLC | MySQL.

PROJECTS

Devops Project

08/2024 - 09/2024 Datscientest.com Chemnitz, SN, Germany

Topic: DeployingSpring PetClinic Project in AWS Cloud using Microservices

- **Infrastructure Deployment**: Deployed and managed a scalable, high-availability infrastructure on AWS, leveraging services such as EC2, S3, RDS, Route 53, and Lambda.
- **Resource Automation**: Automated the provisioning of cloud resources using Terraform and AWS CloudFormation, significantly reducing deployment times and streamlining setup processes.
- **CI/CD Pipeline Implementation**: Designed and implemented CI/CD pipelines using Jenkins, GitLab CI, and AgroCD to automate the testing, building, and deployment of applications in AWS.
- **Container Management**: Managed containerized applications using Docker and Kubernetes (EKS).
- **Security Enhancements**: Improved application security by implementing IAM roles, configuring security groups, and utilizing AWS Systems Manager for automated security patching.
- **Monitoring and Alerting Solutions**: Developed and maintained comprehensive monitoring and alerting solutions using AWS CloudWatch, Prometheus, and Grafana to ensure system reliability and quick incident response.
- **Cloud Migration and Disaster Recovery**: Led cloud migration projects and implemented effective disaster recovery solutions across multiple AWS regions, significantly reducing downtime and minimizing risks of data loss.
- **Integrated Testing within CI/CD Pipelines**: Built CI/CD pipelines in Jenkins, incorporating unit testing to ensure code quality and reliability.

Tools: Amazon Web Services, Jenkins, Gitlab, AgroCD, Docker, Linux, Prometheus, Grafana
Skills: Python, Terraform, Bash Scripting, Kubernetes, HELM Charts, MySQL, CI/CD

Master Thesis

04/2019 - 09/2019 Technische Universität Chemnitz Chemnitz, SN, Germany

Topic: Instance Segmentation for Human Localization

- **Architecture Development**: Designed and implemented a robust instance segmentation architecture specifically aimed at accurately detecting and localizing individuals, even in challenging scenarios where occlusions occur due to other people or objects.
- **Annotation Process**: Utilized the COCO Annotator to meticulously annotate disjoint body regions, enabling precise segmentation of individuals and improving the quality of training data.
- **Advanced Recognition Techniques**: Applied sophisticated recognition methods to enhance the identification of human figures within crowded environments.
- **Algorithm Optimization**: Conducted experiments with various algorithms to achieve optimal accuracy, refining the model's performance through iterative testing and validation.
- **Validation and Testing**: Tested the segmentation algorithm to ensure effective recognition of actual human regions against original masks, validating its efficiency in practical applications and real-world scenarios.

Tools: MS Visual Studio Code, VGG Annotator, Inkscape, COCO-Annotator, Ubuntu Linux, Docker, Overleaf, MS Office.
Skills: Python3, Convolutional Neural Networks, OpenCV, Numpy, Pandas, Keras, Scikit-Learn, Ubuntu Linux, Virtual Networks, Google Cloud, Docker Container, Tensorflow, Tensorflow Graphs.

Praktical Trainee Student

04/2018 - 07/2018 Technische universität Chemnitz Chemnitz, SN, Germany

Software development and testing for automotive ECU

- Software function development for demo vehicle.
- CAN bus programming with 5 ECUs handling multiple communicating functions and a virtual cockpit.
- Testing the communication between the ECUs.

Tools: SystemDesk (dSpace) | Raisonance Ride7 IDE | Virtual Cockpit | C
Skills. CAN Networking, ECU Programming, C

Academic Project

10/2016 - 02/2017 Technische Universität Chemnitz Chemnitz, SN, Germany

Topic: Image Processing and Pattern Recognition

- Feature extraction using grayscale values and HOG descriptor.
- The best pixels are applied to test images, resulting in a 90\% positive rate.
- Method - II, person recognition with HOG and SVM.
- Best pixel evaluation through the confusion Matrix

Tools: Visual Studio, Windows, MS Office
Skills: Decision Trees, HOG, Image Processing, SVM, OpenCV, Python, C++

EDUCATION

Devops Engineer Diploma

06/2024 - 10/2024 Datascientest (Dev University) France

Devops Engineer

- Built and maintain CI/CD pipelines in Jenkins to reducing manual deployment efforts.
- Managed and automated infrastructure provisioning using Ansible and CloudFormation which support the hybrid environment (on-prem and AWS).
- Implement Docker-based containerization strategies which increase the development productivity.
- Perform application monitoring using ELK stack and create custom dashboards for analyzing server performance and application logs.
- Resolve infrastructure issues, enabling a faster incident resolution process.
- Create and maintain shell scripts for automating various operational tasks.

Skills: AWS, Docker, Kubernetes, Terraform, Ansible, Prometheus, Grafana, Datadog, Gitlab

Integrationskurs Deutsch

11/2020 - 04/2021 Initiativ Gruppe München, BY, Germany

- Deutsch Sprachkurs B1+Beruf

Masters in Information and Communication Systems

10/2014 - 09/2019 TU Chemnitz Chemnitz, SN, Germany

- Digital Systems, Image Processing, Network Communication
- Machine Learning, Deep Learning, Digital Signal Processing

Masters in Electronics

08/2010 - 06/2012 Osmania University Hyderabad, TG, India

- Microcontroller Communication, Signal Processing.
- Control Systems, Telecommunication.

SKILLS

AWS-Devops

- Designed a reusable Terraform module to deploy VPC, EC2, and S3 resources, reducing infrastructure setup time by 50%.
- Developed a Jenkins pipeline to build, test, and deploy a microservices-based application on Kubernetes, improving deployment speed by 30%.

Python Development/Testing

- Created a custom GUI application using **PyQt** for controlling industrial cameras and also for motion detection.
- Implemented data capture and image processing features, boosting usability in quality control operations.

LANGUAGES

German

› Goethe-Zertifikat B1

English

› IELTS : 7/9

Telugu Mother Tongue

Hindi Full Proficiency

TECHNICAL TOOLS

TOOLS
- Visual Studio Code
- Visual Studio
- PyCharm
- Wireshark
- GitHub
- Gitlab
- Jira
- Trello
- Confluence
- Arduino
- Putty
- MicrochipStudio
- Docker
- IBM Doors
- H-Term

PROGRAMMING SKILLS

Software Programming
- Python
- Matlab
- HTML
- CSS
- C# (Basic Knowledge)
- YAML
- Hashicorp

Hardware Programming
- C (Basic Level)
- C++ (Basic Level)

COMPUTER SKILLS

Databank Systems   MySQL, PostgreSQL

Network Protocol's   TCP/IP, UDP, Ethernet

Communication Protocol   CAN, LIN

CERTIFICATIONS

Devops Engineer   from Dev University, France - Sep/2024 link

Terraform   from DataScientest, Paris - Oct/2024 link

Kubernetes for Devops   from Datascientest, Paris - Aug/2024 link

Jenkins   from Datascientest, Paris - Sep/2024 link

Docker Containers   from Datascientest, Paris - Aug/2024 link

SQL Databases   from Datascientest, Paris - Aug/2024 link

NoSQL (MongoDB)   from Datascientest - Nov/2024 link

Gitlab   from Datascientest, Paris - Nov/2024 link

Linux-Administration   from Datascientest, Paris -Jul/2024 link

AWS Solution Architect - From Udemy - 2022

Deutsch Sprache B1   from Telc - 06/2021 link

ISTQB Foundation Level   from UDEMY - 2020 link

OTHER SKILLS

Backend Programming
- Django with RestAPI
- FastAPI

Manual And Autoimation Testing with Python
- GUI Tesing
- API Testing
- Manual Testing
- Electronic Board level Testing

OPERATING SYSTEMS

Windows 10, 11

Linux (Ubuntu, Fedora, SUSE, Scientific Linux)

INTERESTS

Hiking/Trekking, Cycling.

Learning New Technologies

Watching Movies, Meeting friends

SOCIAL NETWORKS

- @sshsurabhi
- @sshsurabhi
- @sshsurabhi
- @sshsurabhi