SGDSVV RAMANAMURTHY KATAKAM

Software Developer | Application Development

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LinkedIn | Portfolio

PROFESSIONAL SUMMARY

Software Developer with expertise in C++, Python, and the Qt Framework, specializing in application development, image analysis, and embedded systems. Proven track record of creating innovative tools to optimize workflows, automate processes, and enhance efficiency. Passionate about learning new technologies and tackling interdisciplinary challenges.

SKILLS

- **Programming Languages**: C++, Python, Java, Shell scripting.
- **Concepts**: Multi-threading, Image Processing, Signal Processing, Automation, User-Centric Design.
- **Frameworks & Tools:** Qt, OpenGL, Docker, GitHub, QML, CMake.
- **Simulation & Data Visualization** Any Logic, 3D Animation Tool, Camera Data Visualization, GIF Creation
- **Web Development** HTML, CSS, JavaScript WordPress, Elementor.
- **Soft Skills Problem Solving**, Project Management, Team Collaboration, Communication, Adaptability
- **Signal Processing & Machine Learning** Fourier Transforms, FFT, PSD Wavelet Transforms, K-Means, SVM
- **Languages** English (Fluent), German (Conversational- B1)

WORK HISTORY

May 2024 – Mar 2025
Software developer Intern
Forvia Hella - Lippstadt

- Designed and developed multiple software tools to automate and enhance vibration analysis workflows, reducing manual effort and improving efficiency.
- Engineered a High-Speed Camera Image Acquisition Tool in C++ and Qt, integrating real-time zoom, exposure detection, and real-time measurement visualization, and dynamic measurement procedures eliminating reliance on third-party tools and ensuring optimal image capture for precision tracking, reduced workflow time from 2 days to ~8 hours
- Built "Animator" – A Powerful 3D Motion Visualization Tool, replacing Hyper Mesh by enabling 3D motion tracking, skeleton generation, tracking point selection, and FRF Analysis, and vibration flow analysis, reducing workflow time from 12+ hours to just 4 hours.
- Led user-centric development by continuously integrating tester feedback and deploying polished tools.

- Enhanced cross-functional workflows across simulation and testing teams by automating repetitive tasks and introducing error-free data validation.

Dec 2022 - current
Research Assistant (C++ developer)
Bauhaus Universität - Weimar

Developed mathematical libraries and signal processing applications in C++ for research in numerical algorithms and real-time data processing.

- Developed C++ libraries for machine learning algorithms (K-Means clustering, SVM).
- Designed Qt-based GUI applications for real-time data visualization and signal processing.
- Integrated advanced signal processing functions into research applications, improving data accuracy.
- Optimized algorithm performance for large-scale computations, improving efficiency and processing speed.

Jun 2024 - Current
Research Assistant (Web developer)
eTeach Thüringen, Bauhaus-Universität Weimar

Worked on virtual meeting integrations and website development using WordPress, Elementor, and Mec Calendar plugins.

- Integrated tools for virtual meetings within Work Adventure, enhancing online collaboration.

Jun 2023 – Nov 2023
Freelance Web developer
Weimar

Designed, developed, and maintained websites for German clients using HTML, CSS, JavaScript, and Word Press.

Jun 2021 – Nov 2021
Systems Engineer
Infosys - India

Provided network support and assisted in troubleshooting and maintaining network configurations.

EDUCATION

Expected in Apr 2025
Master of Science: Digital Engineering - Bauhaus Universität | Weimar, Germany
Master's Project: Web development for Argumented search engine.
Master Thesis: Graphical user interface Development for Enhanced measurement data Processing and robust conversion to Finite Element Analysis software interface.
Key competencies: C++, Python, MATLAB, Java, SQL, Algorithms and Data Structures.

Bachelor of Technology: Mechanical Engineering
JNTUK- University college Engineering Vizianagaram | Vizianagaram, India
Bachelor's Project: Design and simulation of light weight E-moped using Solidworks.
Key competencies: CAD-Software (Solidworks, Fusion 360, CATIA), Thermodynamics, Thermal Engineering, Automobile engineering.