Viresh Duvvuri

Seattle, WA | +1-509-964-5469 | vireshduvvuri@gmail.com | linkedin.com/in/viresh-duvvuri

Robotics Systems Software Engineer with 5+ years building production-ready autonomous systems, specializing in C++/Python development, embedded flight control, computer vision algorithms, and cross-functional collaboration for manufacturing and field deployment

Skills

Programming: C++, Python, React, SQL, Android, OOP, Multithreading

System Software & Web Services: REST APIs, Docker, Git, Linux Services, Cloud Deployment (AWS), System Monitoring, CI/CD

Robotics Framework: PX4, Ardupilot, mavlink, mavsdk, pymavlink, UAVCAN, Plotjuggler, Wireshark

Embedded Framework: RTOS, I2C, UART, SPI, CAN, STM32

OS & Version Control: Linux (bash scripting), Windows (bat files), Git, Testrails, Notion

Work Experience

Freefly Systems   Woodinville, WA
Drone Systems Engineer   *11/2021 - 10/2025*

- Built AI-powered diagnostic tool with REST APIs and cloud deployment (AWS) using Python and LLM frameworks, processing complex technical data to identify system failures and achieving 85% faster issue resolution for manufacturing and field support
- Developed knowledge base enhancements and automated support tools improving customer self-service capabilities and team response times by 40%
- Contributed to drone platform codebases implementing flight control optimizations and payload integration features across Altax and Astro product lines, reducing customer support tickets by 60%
- Managed software integration projects from planning through release, coordinating firmware updates and executing comprehensive testing protocols using modern development tools (Docker, Git, Linux) with cross-functional teams
- Led release management for drone platforms overseeing testing phases from alpha through production deployment, maintaining stakeholder alignment across engineering, manufacturing, and support divisions

Lumenier   Sarasota, FL
Software Engineer   *07/2021 - 10/2022*

- Architected and deployed specialized PX4 flight modes including Toss-to-Launch and autonomous surveillance systems in C++, expanding drone application capabilities by 30% for specialized industrial use cases
- Enhanced GPS-denied navigation performance by 50% through LiDAR sensor integration and advanced MAVLink/UAVCAN protocol implementation, enabling reliable operation in challenging environments
- Led collaborative development with PX4 maintainers to optimize core flight systems, improving GPS accuracy, position-hold stability, and 360° obstacle avoidance across diverse lighting conditions
- Established comprehensive firmware validation framework reducing critical bug deployment by 80% through systematic log analysis and automated testing procedures for each release cycle

York Exponential   York, PA
Robotics Research & Development Engineer   *08/2018 - 03/2020*

- Created intuitive Human Machine Interface for collaborative welding robotics using Universal Robot platform, decreasing operator programming complexity by 50% and training time by 40%
- Developed autonomous surveillance robot prototype from concept to functional system using ROS2, SLAM, and computer vision, reducing manual security monitoring requirements by 70% through advanced navigation algorithms

Education

Washington State University   Pullman, WA
Master of Science Computer Science   *2015 - 2017*

GITAM University   Visakhapatnam, India
Bachelor of Technology Information Technology   *2011 - 2015*