Nick Stuart

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Education

Boston University — Online Program
Masters of Software Development — *Fall 2021 – Spring 2024*

University of Texas At Arlington — Arlington, TX
Masters of Business Administration — *Fall 2017 – Fall 2019*

Texas A&M University — College Station, TX
Bachelors of Science in Electrical Engineering — *Fall 2011 – Winter 2015*

Experience

Software Engineer - RF Signal Processing and Tracking — 2022 - Present
Lockheed Martin — *Fort Worth*

- Architected and developed complete RF signal processing pipeline from I/Q data ingestion to target tracking solutions
- Implemented advanced tracking algorithms including immediate decision single hypothesis data association, Kalman filters, and particle filters for target solution generation
- Built comprehensive analysis tooling in Rust for pipeline performance evaluation, displaying critical metrics such as track location accuracy and error analysis
- Developed sophisticated MATLAB simulation modeling aircraft kinematics and signal generation for system validation and testing
- Collaborated with cross-functional teams to integrate RF processing capabilities into existing sensor fusion architecture

Software Engineer - Sensor Fusion — 2022 - 2024
Lockheed Martin — *Fort Worth*

- Maintained and enhanced sensor fusion capabilities for F-35 Lightning II aircraft systems
- Specialized in data association algorithms for multi-sensor integration and target correlation
- Developed new sensor fusion capabilities to improve target detection and tracking accuracy
- Optimized real-time processing performance for mission-critical defense applications
- Collaborated with test teams to validate sensor fusion performance against operational requirements

Electronics Engineer — 2020 - 2022
Bell Flight — *Fort Worth*

- Designed and developed wire harnesses for advanced rotorcraft programs
- Led wire harness design and manufacturing for FARA (Future Attack Reconnaissance Aircraft) helicopter competition
- Developed comprehensive Java software suite that automated wire harness design processes, integrating with existing CAD tools for design verification, route optimization, and intelligent part number selection

Electronics Engineer — 2016 - 2020
Lockheed Martin — *Fort Worth*

- Designed and developed electrical systems and wire harnesses for advanced new development programs
- Contributed to multiple Skunk Works advanced development programs, delivering innovative electrical solutions
- Managed full product lifecycle from initial design through testing and integration
- Collaborated with mechanical and software engineering teams to ensure seamless system integration

Notable Projects

Multi-Aircraft Kinematic and Signals Processing Simulation (MATLAB)

- Developed comprehensive simulation environment modeling multiple aircraft dynamics
- Generated realistic signal patterns for RF processing pipeline validation
- Enabled systematic testing of signals processing and tracking algorithms under various operational scenarios

Rust-Based Analysis Tooling

- Created performance monitoring and visualization tools for RF processing pipeline
- Implemented real-time display of tracking metrics and system health indicators
- Improved debugging efficiency and system performance optimization

Wire Harness Design Automation Suite (Java)

- Engineered comprehensive software suite integrating with CAD tools to automate manual wire harness design processes
- Developed intelligent algorithms for route optimization and automated part number selection based on harness specifications
- Implemented cross-platform design verification system reducing manual errors and improving design consistency

Technical Skills

Programming Languages: Rust, MATLAB, C/C++, Python, Java
Signal Processing: RF signal detection & decoding, Digital signal processing
Fusion Algorithms: Kalman filters, Particle filters, Data association algorithms
Systems: Sensor fusion architectures, Real-time processing pipelines, Embedded systems
Tools & Technologies: Docker, Kubernetes, gRPC, AFSIM
Hardware: Electrical system design, Wire harness design & manufacturing, Avionics systems