Tejas Roysam

Experience

Parry Labs, LLC. — **Sept 2022 – Present**
Chief Engineer — *Huntsville, AL & Dallas, TX*

- **Chief Engineer -** Lead engineer for the uncrewed & space systems business segment, comprising the vast majority of programs and revenue of the company (>$60M), including Programs of Record, IDIQs, SBIRs, service contracts, and others. Support teams hands-on as needed across software, electrical, mechanical, cyber, systems, integration, safety, and other engineering domains. Manage geographically disparate (coast-to-coast) engineering teams.
- **Integration & Test -** Lead and perform hardware/software integration, including platform integration on air and ground vehicles, with a focus on networking, datalinks, command / control, mechanical/thermal, and electrical harnessing. Design and execute tests and exercises ranging from qualification & environmental testing up to portions of field exercises.
- **Business Development -** Develop, manage, and align efforts across US Army, Air Force, Space Force, and other DoD/International entities with corporate product sale, business, and government platform development goals. Contribute to corporate strategy. Provide cross-discipline engineering guidance, including to capture, solutions, FSR, and senior leadership/C-suite.
- **Program Manager -** Create & manage budget & personnel bids, forecasts, allocations, skills alignments, hiring/interviewing, and performance management. Develop & maintain Integrated Master Schedules, cost forecasts & actuals, and present schedule and budget accountability to corporate leadership and profit/loss centers.
- **Open Architect -** Implement, integrate with, and help develop US government reference architectures such as FACE, AMCE, GARA, GCIA, OMS, etc. to balance supporting the government MOSA acquisition strategy with developing roadmaps for business growth. Work in MBSE tools such as Cameo to decompose and implement open architectures.
- **Process & Digital Transformation -** Shepherd & roadmap process optimization and digital transformation across the engineering organization to build cross-functional engineering excellence, efficiency, and effectiveness. Lead implementation of Integrated Functional Capability (IFC) quality and configuration management across programs.
- **Strategy, Capture, & Tech Writing -** Primary and secondary author of over 50 proposals/year, primary author of multiple internal publications, technical manuals, datasheets, and technology roadmaps. Major contributor to pursuit activities from technical writing to engineering bidding to tradeshow/customer site hosting and final capture. Contributed >$10M in program capture including as principal investigator and architect for a $2M USSF SBIR.
- **R&D Lead, Project Engineer, Demo Lead -** Previously led digital R&D engineering and program management, including the STRATIA product, while managing customer & tradeshow demos & integrations. Prior to that, led product development, software engineering, and program management for a software-defined networking R&D effort.

National Aeronautics and Space Administration — **Oct 2020 – Sept 2022**
xEMU Informatics Deputy Subsystem Manager — *NASA Avionic Systems Division, Human Interface Branch*

- **Technical Program Manager -** Acting Subsystem Manager for the xEMU Informatics system: Providing technical leadership & authority for one of the three subsystems of a $1B NASA program developing the next-generation spacesuit's crew autonomy systems, with a focus on high-reliability imagery, lighting, and communications. Architecting the role and engineering practices of informatics in Artemis Lunar microgravity and surface ops.
- **Product Owner -** Component lead for the xEMU Imager System: Guided the camera/processor system through formal design verification testing & engineering evaluations, interfacing with analysis groups (materials & processes, EEE parts, thermal, stress, EMI/EMC, etc.) & operations/crew customers to ensure camera operability in destination environments.
- **Test Lead -** Planned and executed camera formal & informal testing - including ionizing radiation component-level testing, assembly-level vibration testing, system-level thermal vacuum testing, Lunar lighting system performance testing, EMI/EMC & bonding interoperability testing, and human-in-the-loop subjective testing. Developed, conducted, and analyzed wireless performance and range tests with embedded Wi-Fi systems for space applications, including mesh networking.
- **Software Lead -** Managed multiple developers, responsible for software architecture, requirements, verification & test plans, configuration control, lifecycle management, and more. Also led DSP-based echo cancellation embedded systems development and developed safety-critical life support systems software.
- **Avionics Engineer -** Developed flight, test, and instrumentation software, firmware, and kernels for radiation-tolerant real-time HD video processing and Wi-Fi interfacing. As a member of the human interface branch, expanded imagery team core capabilities (analysis, test, and systems design), mentored graduate & undergraduate students, developed and presented technical courses, spearheaded division initiatives for knowledge capture and new capabilities.
- **Systems/Integration Engineer -** Developed, reviewed, and refined plans, procedures, requirements, verifications, concepts of operations, and architectures as part of the overall systems engineering lifecycle for xEMU and the greater xEVA program.

CACI, Inc. — **Jan 2019 – Oct 2020**
Flight Software Engineer — *NASA Software Simulations and Robotics Division, Flight Software Branch*

- **Software Lead -** Developed flight software for next-gen space suit Informatics subsystem, encompassing telemetry & image/video data collection, processing, and distribution to spacecraft and ground resources. Shepherded requirements definitions and refinement for software, including through rigorous project-level internal review cycles.
- **Safety-Critical Software Engineer -** Developed flight software for space suit Caution and Warning System (CWS) to monitor and provide interfaces to safety-critical suit functions. Also developed high-fidelity simulation software for suit software and firmware, for use in astronaut and flight controller training. Performed hardware and software validation and integration.
- **Embedded Engineer -** Built safety-critical firmware and tested firmware-hardware integration for Digital Signal Processors (DSPs).
- **DevSecOps -** Created and maintained DevOps tools & practices for static analysis, continuous testing, automated code & document builds, and project reporting. Developed standardized project build & test environments and created multi-project continuous integration pipelines to improve robustness of DevOps toolchains.
- **Software Test -** Performed verification, acceptance testing, and performance testing of proprietary & purchased hardware.

SGT, Inc. | KBRwyle — **May 2018 – Dec 2018**
Platform Engineering Co-Op — *NASA Flight Operations Directorate*

- Voice, Video, Timing Architecture Design for ISS Ground Support
- Embedded Software for Human Exploration Research Analog (HERA)
- T1, Fiber Optic, & IP Routing Analysis & Validation
- RFI Reviewer for Large NASA Hardware Contract

MagnetoSpeed, LLC. — **May 2017 – Aug 2017**
Embedded Systems Engineer — *Austin, TX*

- Rapid Prototyping & Cradle-to-Shelf Product Development
- Built Bespoke Test Platforms for Product & Life/Cycle Testing
- Software, Driver, and Module Development for Atmel Microcontrollers
- Low-Power RF Communications Development & Testing
- Automated Usage Data Collection & Analysis
- Embedded Software Development

Laboratory for Brain Machine Interface Systems — **May 2012 – July 2012**
Intern — *University of Houston*

- Autonomous Robot Movement & Recognition Software
- Python EEG Signal Pattern Recognition & Analysis
- EEG Human Subject Testing for Neuroprosthetic Development
- Women-in-STEM K-12 Outreach

Education

Master of Science — **Dec 2018**
Electrical & Computer Engineering — University of Houston

Bachelor of Science — **May 2017**
Electrical & Computer Engineering — University of Texas at Austin

Skills

Process Maturity	Engineering Leadership	Avionics	MOSA	GRAs
CMMI Certified Associate	Systems Engineering	MBSE	Full Stack	Networking
Quality Engineering	Technical Writing	Embedded Systems	Computer Architecture	C
C++	Java	Python	RTOS	R
CUDA	Yocto	Machine Learning	Gitlab CI/CD	Git
Docker	MATLAB	Linux	LaTeX	Android
HTML/CSS	FPGA Design	Doxygen	Imatest	Altium
Labview	LTspice	Autodesk Inventor	3dsMax	Vivado

Affinities & Activities

Languages — English (Native), Kannada (Fluent), French (Intermediate)

Memberships — Institute of Electrical and Electronics Engineers

Responsibilities — HOA President, Bandleader, Community Literacy Volunteer