ALEXIS RAPPA

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EDUCATION

TEXAS A&M UNIVERSITY	**College Station, TX**
Bachelor of Science, Major in Computer Engineering, GPA: 3.5	**August 2020 - December 2024**

PROFESSIONAL EXPERIENCE

SPACEX, STARSHIP LAUNCH INTERN   **MAY 2023 – AUGUST 2023**

- Owner and point of contact for Starship Launch Mount and Tower automation & controls. Scheduled and managed a two-shift crew of contractors and internal technicians to meet deadlines for getting systems installed and activated.
- Wrote 50+ work orders in detail for 800 man-hours of field work to complete build and checkouts, coordinated with inventory teams to rapidly get parts to the line as work progressed.
- Built and became main owner of integration tower HITL consisting of over 1000+ I/O points using siemens PLCs, Switches, RIOs, and VFDs
- Worked with civil, fluids, software, and structures teams to communicate and support rapid design iteration during the build process as well as activations of the subsystems during overall system build.
- Developed and executed test plans with a checkout process to maintain signal quality.
- Owned software configuration and operational readiness for instrumentation of the integration tower, orbital launch mount, and the water deflector, participating in code closure to get the system online.
- Proactively walked down system and monitored system status via alerts and system GUI, caught several near misses hours before tests that would have set back Starship operational readiness.
- Isolated and wired fluids panels throughout the orbital pad to unblock critical Starship launch operations.

SPACEX, STARSHIP CONTROLS & AUTOMATION INTERN   **MAY 2022 – AUGUST 2022**

- Managed schedule and priorities of technicians, engineers, and contractors from multiple teams, increasing crew efficiency during build and repair efforts between tests.
- Worked with teams across the company in implementing environmental/vehicle learning instrumentation requests during B7/S24 campaign for ground support equipment and first/second-stage vehicle avionics providing high-speed data for analysis.
- Designed, fabricated, tested, and deployed GSE and avionics harnessing and instrumentation for Raptor Engines, Launch Vehicles, and Orbital Pad Structures.
- Built and commissioned control panels and high-speed DAQs for new systems using instrumentation such as valves, pressure transducers, RTDs, strain gauges, and controls IO for pump VFDs.
- Main contact for ASU controls, helping in activation of the facility through Modbus device configurations and instrumentation & gas analyzer activations.
- Worked with engineers to consolidate software configuration changes, reducing software releases and downtime for software changes.

TEXAS A&M SOUNDING ROCKETRY TEAM, TAMUSRT@ORG   **AUGUST 2021 – PRESENT**
AVIONICS, SRT-11 (2023-2024)

- Responsible for all electrical systems inside and outside of the rocket – avionics, actuator, ignition systems, wired / wireless communications, and payload.

ELECTRONICS & PAYLOAD, SRT-X (2022-2023)

- Developing Avionics - X FPGA board for use as flight computer.
- Fabricated testing electronics system for use during static engine testing.
- Supporting ground control, avionics, and communication systems development and testing.

TESTING & OPERATIONS, SRT-9 (2021-2022)

- Developed UL 308A compliant Data Acquisition Panel used in static engine testing and hydrostatic engine testing and provided detailed schematics and documentation.
- Developed SCADA program in Ignition Maker to oversee teams process during engine testing procedures, allowing remote access and control to testing instrumentation.
- Helped maintain and improve testing infrastructure, perform scheduled preventative maintenance or repairs of launch critical systems and components, learned about our DAQ (Data Acquisition) system and calibrate pad weight system and pressure transducers.
- Gained hands on experience working with all operational rocketry infrastructure in propulsion, electronics, and testing/operations, supporting a 850lb thrust hybrid engine as one of two designated launch technicians.

- Performed test and launch technician duties during operational cold flows, static engine tests, hydrostatic tests, and launch operations. Troubleshoot issues found during testing procedures of fluid and mechanical systems.
- Provided critical feedback to team over other rocket subsystems during weekly meetings.

TEXAS AUTOMATION SYSTEMS, CONTROL PANEL SPECIALIST   **MAY 2019 – MARCH 2022**
- Interpret schematics, drawings, and blueprints to assemble and install wiring of relays, controls, PLCs, I/O modules, VFDs, interfaces, and instrumentation that comply with UL 308A standards.
- Oversee schedule of work-orders to ensure products are built in order and on time for customer demands.
- Collaborated with supervisors and engineers to review work activities for production problem resolution.
- Diagnosed and repaired malfunctioning electrical & control systems including PLC and I/O based systems, AC & DC drives, transformers, and motors.
- Ignition SCADA experience; duties focusing on designing, configuring, and deploying Ignition SCADA systems in industrial environments.
- On-site shadowing of commission services, radio network installations, and troubleshooting.

ADDITIONAL EXPERIENCE

L'SPACE MCA: NASA WORKFORCE DEVELOPMENT PROGRAM
- NASA L'Space Mission Concept Academy is a 12-week virtual workforce development program where training is received weekly from engineers and scientists to develop skills to work on a mission-related project. The mission project includes collaborating with a team to design the project, research, and practice skills acquired during training. As engineering team leader, I coordinate the design process of the vehicle used for this mission.

TEES BACHELOR'S+ PROGRAM: CYBERSECURITY
- Trained to configure, troubleshoot, and maintain computer systems, virtualized environments and secure network communications. Learned how to analyze and recommend counter measures to mitigate security threats to systems/networks. Gained skills to develop scripts for automating configuration and management of system/access controls to maintain secure systems.

AGGIES INVENT: NATIONAL SECURITY AGENCY (NSA)
- Helped to design a secure unified digital workspace(s) for mission analysts that provides contextually aware access todevices, applications, and data in a secure collaborative manner.

TECHNICAL SKILLS AND CERTIFICATIONS

Programming: Python · Java · C/C++ · Verilog · ARMv8 Assembly
Software: Git · Github · SVN · Stash · Jira · Confluence · VS Code · LaTeX · LTSpice · Xilinx Vivado · Microsoft Suite Simulink · TIA Portal
Hardware: Arduino · Raspberry Pi · Siemens PLCs/RIOs · NI DAQs
CAD: EPLAN · Cadence · Altium · KiCAD · Siemens NX
Manufacturing: PCB Manufacturing · Machining I, II, III – Mill · Machining I, II, III – Lathe · 3D Printing
Certifications: NFPA 70E, EPLAN Cogineer, HAM Radio License – Technician Class, Machining I, II, III