Matthew Stringer

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Education

University of California, San Diego
Sep 2020 - June 2024

Major: Math-Computer Science and Electrical Engineering
Major GPA: 3.4 || Provost Honors

Work/Experience

UCSD Students for the Exploration and Development of Space **Mar 2022 – Present**
Controls and Guidance Engineer, Electrical Engineer

- Created PID and transfer function-based laws for altitude and attitude stability of the rocket lander.
- Analyzed frequency domain system/controller performance to meet rise-time, settling time, etc. criteria.
- Used Simulink to develop 6DOF simulations of the rocket lander using non-linear dynamics.
- Spearheaded Inertial Navigation System framework and gimballed test stand for vehicle IMU testing.
- Developed Kalman filter framework for the purpose of estimating the vehicle position during flight.

Kennedy Robotics **July 2015 – Dec 2019**
Control System Engineer and Software Developer

- Derived equations of motion and state-space model for a robotic arm to use in controller design.
- Designed MIMO controller for differential drive robot and multi-jointed arm using state-space methods.
- Used “trapezoidal motion profiling” to generate reference set-points for differential drive and mechanism.
- Utilized wheel-encoder and gyroscope sensor readings to localize/estimate position of differential drive robot.

MedChron LLC **Jan 2021 – July 2021**
Founder & CEO

- Used Next.js, Express, and Apollo Server to implement Rest APIs for data manipulation and pdf generation.
- Designed SQL database structure for tracking patients' monthly calls, chronic care plans, annual wellness visits, etc.
- Constructed AWS architecture for DNS configuration, database hosting, and Docker Container Hosting.

Relevant Coursework

Analog Circuit Design || Signal Processing || Linear Systems || Classical Control Theory || Safety for Autonomous Systems
Embedded Systems and Robotics || Optimal Control || Real Analysis
Object Oriented Programming and Data Structures || Computer Organization and Systems Programming

Software Skills

Java || JavaScript || C/C++ || MATLAB || Python (OpenCV, Pandas, Pytest) || SQL