TERESA SADDLER

Aerospace and robotics engineering student (senior, spacecraft concentration) seeking full-time opportunities in new aerospace technology development, including control systems and autonomy. Experience in software development, mechanical design, writing, and systems integration/test.

Phone: (703) 282-7790
Email: tsaddler@wpi.edu
GitHub: TGSaddler
LinkedIn: teresagsaddler

PROFESSIONAL EXPERIENCE

SOFTWARE INTERN Manassas, VA (Remote) – Aurora Flight Sciences (Boeing Company) May 2020 – August 2020

- Expanded featureset of Common Open-mission Management Command & Control (COMC2) software suite for operation of the Boeing NeXt/Aurora Orion vehicle
- Developed graphical interface monitoring of the primary & backup landing gear braking systems, including pressure and temperature information
- Independent, self-directed task definition, reporting directly to software engineering manager (formerly aerial robotics group)

SOFTWARE INTERN Manassas, VA – Aurora Flight Sciences (Boeing Company) May 2019 – August 2019

- Post-flight data analysis for Aurora PAV urban mobility vehicle incl. automatic plot generation & automated video transformation
- Utility scripting and data acquisition programming for mission computer systems
- Hardware redesign and upgrade for mobile ground station operations
- Management and automation of ground computer system configuration

EDUCATION

WORCESTER POLYTECHNIC INSTITUTE Worcester, MA – Class of 2021 August 2017 – May 2021 (Expected)

- B.S. Aerospace Engineering, B.S. Robotics Engineering; Dean's List; GPA: 3.92/4.00
- Sigma Gamma Tau (2019–), American Institute of Aeronautics and Astronautics (2018–), Society of Women Engineers (2017–)
- Aerospace: Astronautics, GNC, aerospace structures, aircraft dynamics and control, spacecraft control, control of dynamical systems, rocket propulsion, aerodynamics, fluid dynamics (compressible/incompressible), structural dynamics, spacecraft and mission design, space environments
- Robotics: software engineering, OOP, embedded, digital circuits, actuation, sensing, navigation, manipulation, pathfinding
- Engineering: systems engineering, engineering design, materials science, manufacturing science, statics and stress analysis,
- Math/Physics: thermodynamics, linear algebra, differential equations, multivariable calc., mechanics, oscillations and waves, probability, statistics, electricity and magnetism

SKILLS

CAD/CAM: SolidWorks, Autodesk Inventor, Autodesk Fusion 360, ESPRIT
Typesetting: Microsoft Word/PowerPoint/Publisher/Outlook/Excel, LaTeX
Languages: MATLAB, C, C++, Java, Python, Racket, Verilog (Xilinx Vivado), Arduino, Simulink
OS: Linux (CentOS, Ubuntu), Windows
Software: Git (Github, Bitbucket), SVN, Microsoft Teams
Technical: Rapid prototyping, wind tunnel analysis, material deflection analysis, airfoil design, numerical modeling and simulation
Communication: Presentation, documentation, organized reports

AWARDS & DISTINCTIONS

Dean's List, WPI, August 2018 - Current
Charles O. Thompson Scholar, WPI, December 2017
President's Scholarship, WPI, December 2018
Honor Graduate (Weighted GPA above 4.0), Chantilly High School, June 2017
Chantilly Orchestra "Director's Right Hand" Award, Chantilly High School, June 2017

DESIGN PROJECTS

See my full project portfolio at tgsaddler.com

Coordinated Dirigible Network (WPI MQP) – Autonomous, orchestrated flying system for large-area monitoring (2020-2021)
Control of 3DOF Arm – Pathfinding & trajectory planning/following algorithms and computer vision for pick and place tasks
3-Week Plane Design – specification & design of 3D printable airfoil lattice, control systems, hardware selection, PCB design
Personal Management – Multiple trials of brain hacking to create habits, stay organized, and increase productivity with notebooks
Airfoil Design – Applied aerodynamic principles to design airfoils that fit given constraints, tested in wind tunnel
Romanian Ecotourism Website (WPI IQP) – Led small group in creating an effective promotional website for regional ecotourism
Autonomous Robot Navigation – Designed autonomous ROS platform to complete exploration tasks using SLAM and A* pathfinding
Star Trek Video Mashup Website – Led front-end implementation of AWS-based (RDS, Lambda) video mashup platform