T. M. Prevo

tmprevo@gmail.com | (503) 713-7678 | linkedin.com/in/tmprevo
github.com/TearEmUpTara

Summary

Versatile software and mechanical engineer skilled with distributed embedded software systems, propulsion technologies, aerospace flight hardware specification and documentation, with proven expertise in developing solutions for DoD and NASA projects. Demonstrated mastery of time and resource management while concurrently completing 40% of MSME during BSME studies (graduated with Latin honors, 2020). Previous experience in technical support & sales during Netflix's transition from DVDs-by-USPS into a global streaming giant and through AT&T's fiber-optic technology rollout.

Skills

Languages: Quick learning of new tech stacks (<10 weeks), Python scripting for automation and data analysis, MATLab, R regression analysis and fractional factorial experimentation, Advanced VBA development for enterprise automation, generative AI APIs, HTML/CSS, JavaScript, SQL (query fundamentals); English, Spanish, American Sign Language
Tools: SolidWorks, AutoDesk, Creo Parametric, Google Cloud, AWS, Controlled Area Networks
Engineering: Advanced Mathematics & pattern recognition, Research & Development, Statistical Analysis, Documentation Control, Mechanical Design, Hazard Analysis & Risk Assessments, Linear Algebra, Critical Path Project Planning, Laboratory Testing, Data Analysis, Systems Engineering, Compliance, Intellectual Property
Collaboration: Jira, Git, GitHub, Notion, Tableau, Time Management, Resource Management
Additional Training: Cybersecurity, ITAR/SBU, Google Cloud Skills, Safety (Cryogenic, Ladder, High Pressure, High Voltage, Machine Shop), Python for AI (MIMO), Werner Von Braun Symposium (2016, 2017, 2020), CRT/bias, HIPAA

Experience

Embedded Systems Engineer II, Daimler – Remote in Portland, OR Feb 2021 – May 2024

- Led Gateway software development initiatives across 4 global teams, 130 microcontrollers, and 11 networks, establishing robust documentation processes and technical requirements while coordinating between internal and external stakeholders with competing priorities
- Oversaw the production of over 500 vehicles per day (and 6,000 parameters per vehicle) across all North American manufacturing plants and responded quickly to issues or questions regarding installation, programming, parameterization, or maintenance
- Navigated and extracted critical data from multiple enterprise database systems (including legacy COBOL, IBM DB2, and proprietary databases) to support vehicle programming requirements across 50 years of manufacturing data
- Reduced daily Custom Work Orders by 80% by automating processes
- Created comprehensive technical reports by synthesizing data from multiple sources using visualization tools (SQL, Tableau, Power BI) to drive decision-making across engineering teams
- Developed automated test scripts in CAPL (Communication Access Programming Language) and performed network trace analysis to validate vehicle software variables and support the Product Validation Engineering Team

Structural Vibrations Engineering Intern, NASA – Remote in Huntsville, AL Sep 2020 – Dec 2020

- Continuing research from 2017, built client relationships to extend NASA's disruptive tuned mass technology to offshore wind energy industries, assisted with technical specifications on a scaled demonstration
- Designed a scalable system of mechanical amplifiers and fractional factorial experiment with aliasing using R
- Authored technical reports, guides, and provided vibrational calculations according to NASA technical and security standards, simplifying complex information for various internal and external stakeholders

R&D Engineering Intern, IRPI & NASA Ames – Remote in Portland, OR Jun 2020 – Sept 2020

- Developed three solid 3D model liquid manifolds in SolidWorks and submitted drawings for commercial print
- Compare software results to numerical calculations of capillary free surface configurations
- Assist with identifying and reporting software bugs, project reporting, publication, proposal writing as needed

Software Engineering Intern, Daimler – Portland, OR Jun 2019 – Aug 2019

- Awarded a highly competitive scholarship and internship by the Daimler Mechatronics Department
- Developed software in VBA, SQL, and Python for specific business use-cases which alleviated workload by 38 engineering hours per month in the Third Party Powertrain division (Engine & Transmission ECU programming)

Fluid Mechanics Laboratory Research Assistant, Dryden Drop Tower – Portland, OR May 2018 – Jun 2019

- Led NASA-sponsored microgravity hydroponics research through competitive undergraduate mentorship program, directly informing International Space Station safety protocols and SpaceX-18 mission payload
- Constructed a peristaltic flow test bench, designed experiment for scaled capillary test coupons, and systematically tested parameters to identify operational limits and failure modes of plant water management system prior to launch

Structural Vibrations Engineering Intern, NASA – Huntsville, AL Sep 2017 – Dec 2017

- Designed and machined a passive magnetic damping system conforming to NASA's Disruptive Tuned Mass standards
- Authored technical reports, guides, and provided calculations according to NASA technical and security standards, simplifying complex information for various internal and external stakeholders
- Analyzed dynamic signals to quantify electromagnetic drag forces between permanent magnets and copper when subjected to various vibrational modes

Propulsion Engineering Intern, NASA – Huntsville, AL Jun 2016 – Aug 2016

- Won first place in the Marshall Space Flight Center's intern poster symposium for developing scalable solutions to reduce valve chatter and extend component lifespan for The Mars Project, now Patent #11,098,817
- Presented findings via technical report, poster, and keynote speech to the Oregon Space Grant Consortium
- Cleaned complex vibrational dataset containing over 280 million multi-parameter measurements (25 dimensions × 100K+ points × 112 files) and performed regression analysis to support theoretical models
- Designed a prototype in Creo Parametric and submitted to NASA internal machine shop for final production
- Assisted engineers with other projects including writing a hazard & risk assessment for flow testing a 48-port valve with 500 gallons of cryogenic liquid nitrogen, collected hydrostatic pressure and flow test data on a manifold, cleaned & assembled pneumatic actuator flight hardware, volunteered at NASA in the Park

Executive Assistant, PCC Student Government – Portland, OR Aug 2015 – Jun 2016

- Serve as the primary point of contact between college leadership and student interests
- Managed a $1.2M budget for student activities, including emergency assistance and advocacy efforts
- Provided executive support through document preparation, calendar management, and meeting minutes
- Invited to restructure the Finance Department, streamlining processes for small business vendor events

Interim Engineering Administrative Assistant, Portland Community College – Portland, OR May 2015 – Aug 2015

- Coordinated daily distribution of academic materials to Mathematics faculty offices from Print Center
- Managed student queue system for faculty office hours to improve instructor accessibility
- Generated Banner reports for Dean's office and administrative staff to support decision-making
- Provided administrative support through document preparation, calendar management, and meeting minutes
- Served as primary point of contact for student, faculty, and public inquiries regarding programs
- Maintained college database systems through regular data entry and extraction tasks
- Managed office equipment maintenance and supply inventory to ensure operational efficiency

Technical Support Representative, Netflix – Hillsboro, OR Feb 2011 – Dec 2014

- Consistently ranked in the top 10 of 1,000 employees according to rigorous performance metrics
- Developed & presented a communication training module entitled "How to Say No Effectively" which cut dissatisfaction rates by 40% over 1 month center-wide and lowered compensation rates by 5% in 1 week
- Assisted with fraud prevention projects in collaboration with the USPS and Research Teams
- Assisted approximately 120 customers per day on various networks and platforms, totaling 20,000 lifetime contacts and a 96.5% satisfaction rate

Education

Portland State University – BS in Mechanical Engineering, Latin Honors [3.88] June 2020
Genesee High School – Diploma with Honors [3.92] June 2008

Projects

Satellite Thermal Analysis & Testing, Portland State Aerospace Society (Link to Report) July 2019 – June 2020

- Secured $8,000 NASA UTEAP funding to perform deep thermal analysis on a PCB in Low Earth Orbit conditions to provide recommendations for battery insulation to maintain operability in hot & cold cases
- Work closely with clients to identify, document, and meet technical requirements to retrofit a thermal vacuum chamber with a cryogenic cooling system

Liquid Fuel Engine Test Stand, Portland State Aerospace Society (Link to Report) May 2014 – May 2015

- Secured $7,000 NASA UTEAP funding to develop a cryogenic test stand for a LOX/Ethanol liquid fuel rocket engine Alongside a team, created a plumbing and instrumentation diagrams, specified and ordered parts, created hazard analysis and risk mitigation documentation for transporting and handling cryogenics

Volunteer

Pacific Crest Trails Association & Washington Trails Association, Trail Worker 2017-Present
Oregon Food Bank, 2010-Present
DTNA Cares, 2021-2024 (Deaf Dogs of Oregon, Portland Public Schools)
PTK Honor Society Interim President (2016), Secretary (2015)

- Raised chapter ranking from 2-Stars to 4-Stars by spearheading the Hallmarks Project, Winter Food Drive, and creation of a scholarship program to cover membership fees

Awards

Professional Recognition 2016-2024

- Bravo! Award – Recognition from ADAS Team Management, Daimler 2024
- Bravo! Award – Recognition from Product Validation Engineering Management, Daimler 2023
- MSFC Internship Program Volunteer Recognition, NASA 2017
- 1st Place in Engineering, Intern Research Symposium, NASA & Lockheed Martin, 2016

Portland State University 2017–2020

- OSGC Undergraduate Team Experience Award, Portland State Aerospace Society, 2019
- President's List or Dean's List, Unbroken Streak 2017-2020

Portland Community College 2014-2016

- Certificate of Recognition, Academic Excellence, 2014, 2015, 2016
- OSGC Scholarship Recipient, 2014, 2015, 2016
- Patty Jeanne Semura Scholarship, 2016
- PTK Metal of Honor for Excellence in Leadership, 2016
- OSGC Undergraduate Team Experience Award, 2015
- Fred & Lena Meijer Scholarship Recipient, 2015
- President's List or Dean's List, Unbroken Streak 2014-2016

Genesee High School 2004 –2008

- Academic Excellence "Top 10" Students, 2008
- Excellence in Biology Award, 2008
- Excellence in Directing, 2008
- Best Leading Actress, 2007
- Certificate of Award, High Achievement, 2004
- Certificate of Scholarship, High Achievement, 2004
- 1st Place Gold, Applause Competition 2004

Publications

Prevo, T. M., "Omni-gravity Hydroponics System for Spacecraft" (2019). Undergraduate Research & Mentoring Program. 37.

Prevo, T. M., “Concept Analysis & Design of a Magnetically Damped Check Valve,” OSGC 2016 Student Symposium Proceedings, Nov. 2016, p. 10.

Dechant, B., Musil M., Prevo, T., Tiller, J. “Oregon State University. Portland State Aerospace Society Liquid Fuel Engine Test Stand (LFETS).” Oregon NASA Space Grant Consortium Student Symposium Proceedings, 9 Nov. 2017, LaSells Stewart Center.