Paul Soldate

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EXPERIENCE

University of Washington — ***Dept. of Mechanical Engineering, Mechatronics, Automation, & Control Systems Laboratory***
Doctoral Student — ***In Progress***

- Currently pursuing doctoral studies in precision instrumentation, control systems, and numerical modeling for model-predictive manufacturing processes

Boeing — **Boeing Defense, Space, & Security**
Systems Engineer — ***2022 – 2024***

- Developed numerical models to analyze hardware requirements for advanced electro-optical/IR systems
- Collaborated with multi-disciplinary teams to develop simulations and deliver data-driven solutions to customers
- Identified knowledge gaps and assessed product functionality
- Presented results to stakeholders, developed white papers, and met with customers to assess product requirements
- Awards: Engineering Excellence, 2023

Lockheed Martin — ***Rotary & Mission Systems***
Systems Engineer — ***2019 – 2021***

- Developed simulations and calibration methods to optimize electro-optical system performance
- Performed product lifecycle and root-cause analysis to assess product limitations
- Presented results to stakeholders, developed white papers, and met with customers to assess product performance

Harvard University — ***Division of Applied Physics, School of Engineering & Applied Science***
Research Fellow — ***2017 – 2018***

- Developed model-based methods to predict the behavior of patented electrohydrodynamic manufacturing processes [2]
- Presented findings to faculty/researchers and published original research in peer reviewed journals

Cornell University — ***Dept. of Fiber Science, Nano-Manufacturing Laboratory***
Researcher — ***2013 – 2017***

- *Patented new nanomanufacturing processes [1] and* developed instrumentation, simulations, and control systems for the Intel Strategic Research Alliances (ISRA) program
- *Designed integrated systems for materials testing, rheological measurements, and thermal analysis* [3]
- *P*resented findings at technical conferences, and published results in peer reviewed journals

California Institute of Technology — ***Dept. of Applied Physics & Materials Science, Space Radiation Laboratory***
Research Technician — ***2009 – 2011***

- *Developed computational tools to process and analyze data from space-based telescopes*
- *Developed and tested high-voltage hardware for research in x-ray optics and plasma physics*

Lawrence Berkeley National Laboratory — ***The Advanced Light Source, X-Ray Optics Laboratory***
Research Assistant — ***2008***

- Developed calibration methods for the modulation transfer function of surface profilometers for research in optical metrology
- Presented findings to faculty/researchers and published original research in peer reviewed journals [4][5]

EDUCATION

University of Washington	*Mechanical Engineering*	*Ph.D. (In Progress)*
University of Washington	*Entrepreneurship*	*Certificate (In Progress)*
Cornell University	*Applied Physics*	*M.Eng.*
Rensselaer Polytechnic Institute	*Physics*	*B.S.*

IP & PUBLICATIONS

1. Methods and Systems for Electrospinning, *PCT/US2018/042354, January, 2019.*
2. [Editor's Pick] Journal of Applied Physics, *Volume 125, Issue 5, Controlled Deposition of Electrospun Nanofibers by Elecrohydrodynamic Deflection, February, 2019.*
3. Springer, Advances in Intelligent Systems and Computing, *Development of an Automated Pressure Sensitive Thermesthesiometer…, 2018.*
4. SPIE Volume 7448, Advances in XRay/EUV Optics and Components*, IV, ISBN: 9780819477385, Binary Pseudo-random Gratings and Arrays for Calibration of Modulation Transfer Function of Surface Profilometers: Recent Developments, 2009.*
5. Journal of Vacuum Science and Technology, Microelectronics and Nanometer Sci. B*, Volume 27, Issue 6, pp. 3213-3219, Development of Pseudo-random Binary Arrays for Calibration of Surface Profile Metrology Tools, 2009.*

COMPUTATION

Git, Python, C, C++, MATLAB, Linux, LabVIEW, COMSOL, ANSYS, Arduino, CAD, LaTex, JIRA, Confluence, DOORS