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Bradford Allan Duvall

Qualifications

Bachelor of Science in Material Science and Engineering, Graduate Certificate in Software Design and Development. Studied and implemented fundamental concepts of computer science and software development.

Completed projects in C++, Python, Java, JavaScript, Swift, and NodeJS. Used Tkinter, SQLite, PostgreSQL, and Flask to create applications in Python.

A Process Engineer, ~~for a year~~ working in multi-disciplinary teams in Aerospace manufacturing troubleshoot customer issues, and test and implement new polymers to ensure customer satisfaction and to reduce manufacturing cost. A Research Engineer, ~~for four years~~ in Aerospace manufacturing to implement new metal alloys and new manufacturing methodologies

Projects

Education

[2017 - 2018] University of Washington Bothell, WA

Graduate Certificate in Software Design and Development

CS fundamentals: data structures and algorithms, systems programming, and software engineering life cycle and modeling.

3.51 on a 4.00 scale GPA

[2009 - 2011] University of Washington Seattle, WA

Bachelor of Science Material Science and Engineering

Vice President of SAMPE student group, placing first overall in the composite bridge building contest in 2011

[2006 - 2009] North Seattle Community College Seattle, WA

Associate of Science

Work Experience

[2015 - 2016] B/E Aerospace ALCI Everett, WA

Materials and Process Engineer

Maintained and updated materials and process specifications. All documents required Boeing approval prior to implementation.

Developed and wrote a repair manual for minor repairs of plastic and composite materials. The repair manual met internal and external (FAA and Boeing) requirements. The approval of the repair manual allowed B/E to save upwards of $50,000 per lavatory in scrap due to minor damage.

Lead a team of engineers to replace a 3M hook and loop fire retardant product, on a short deadline, due to material being discontinued. The team was able to find a suitable alternative which met FAA and customer requirements.

[2011 - 2015] Exotic Metals Forming Company Kent, WA

Research Engineer I, II

Analyzed and tested new and current titanium and nickel alloys to determine the formability and applicability for current and future product development. Worked closely with suppliers to reduce cost, material weight, and boost ability to withstand increasing jet engine exhaust temperatures.

Worked with Finite Element Analysis software firms to determine the capability of FEA software as it relates to complex forming operations of thin sheet metal details~~. Determined that FEA capability was unable to handle simulation of forming of welded joints.~~

[2010 - 2011] Modumetal Inc. Seattle, WA

Project Engineer Intern

Performed a substrate pretreatment experiment which discovered optimal surface treatment of steel substrates prior to Modumetal deposition and resulted in improved substrate to deposit interface. ~~Provided insight into previously un-identified process variables.~~ Ultimately led to an electroplating system that was more robust in terms of process control.

Provided electrochemical cell computer modeling for several company programs and parts. Contributed to a key contract project by carrying out electrochemical cell modeling of given parts to predict electrodeposited coating thicknesses.

Interests

Martial Arts, Web Development, Computer Gaming, and Hiking/Camping