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Brad Duvall

A materials and process engineer with 6 years of professional experience and a graduate certificate in software design is looking for a Software Engineer position in the Seattle area

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Technical Qualifications

- Graduate Certificate in Software Design and Development and Bachelor of Science in Material Science and Engineering.
- Completed projects in C++, Python, Java, JavaScript and VueJS. Used Tkinter, SQLite, PostgreSQL, and Flask to create applications in Python.
- As Process Engineer worked in multi-disciplinary teams in Aerospace manufacturing, tested and implemented new polymers to ensure customer satisfaction and to reduce manufacturing cost. As Research Engineer in Aerospace manufacturing, implemented new metal alloys and new manufacturing methodologies.

Software Projects

- Brownie Points App (2018 - 2019)
  Wrote an javascript web app game that implements completing user defined daily, weekly and monthly goals for experience points and levels to obtain user defined rewards. Currently updating the app to implement Vue framework and NoSQL using Firebase.
- MT Shadow-Boxing App (2018)
  Created a web app for vocalizing Thai boxing combinations. Used Bootstrap, CSS, HTML and JavaScript to create random combinations and play audio files to voice the combinations. Users have options to adjust timer length, combination length, frequency, and include pre-created combinations. Requested and incorporated feedback from three early users including a lead instructor.
- Personal Website (2018)
  Created a website using Bootstrap, CSS, HTML and JavaScript. Updated the website using Vue framework and hosted the website using Git-Pages.

Experience

University of Washington Bothell, WA [2017 - 2018]
Graduate Certificate Student

- OOP Group Project: Worked with a partner to design and develop an inventory tracking system using BST for quick sorting and storage of inventory. Used hash tables to store and quickly access customer data. Designed a class hierarchy to make the inventory extensible for many media types and genres. Used a manager class to manipulate inventory and customer objects.
- Multithreading, Sleeping Barber Problem: Extended a single process, single thread sleeping barber problem into a multiple thread, multiple barber problem in C++. Used pthreads and asynchronous communication to implement multiple barbers with no memory leaks and no deadlocks.

- Graphs: Implemented a graph class as an adjacency matrix and calculated shortest paths using Dijkstra's shortest path algorithm. Created a graph as an adjacency list and used depth-first search to find shortest paths.
- Recursion Fractals: Designed and developed a wrapper class around an image processing library for manipulating images and creating fractal patterns using recursion and linked lists.

B/E Aerospace ALCI Everett, WA [2015 - 2016]
Materials and Process Engineer
- Maintained and updated materials and process specifications with customer approvals.
- Wrote a repair manual for minor repairs of plastic and composite materials meeting internal and external (FAA and Boeing) requirements saving upwards of $50,000 per lavatory for B/E
- Led a team of engineers to replace a 3M hook and loop fire retardant product, on a short deadline, finding a suitable alternative which met FAA and customer requirements.

Exotic Metals Forming Company Kent, WA [2011 - 2015]
Research Engineer I, II
- Analyzed and tested new titanium and nickel alloys to determine applicability for new product development.
- Worked closely with suppliers to reduce cost, material weight, and boost ability to withstand increasing jet engine exhaust temperatures.
- Collaborated with Finite Element Analysis software firms to determine the capability of FEA modeling and simulation of forming welded joints.

Modumetal Inc. Seattle, WA [2010 - 2011]
Project Engineer Intern
- Discovered optimal surface treatment of steel substrates prior to Modumetal deposition resulting in improved substrate to deposit interface leading to a more robust in terms of process control.
- Provided electrochemical cell computer modeling for several programs. Contributed to a key contract project by modeling parts to predict electrodeposited coating thicknesses.

United States Navy Everett, WA [2000 - 2006]
Nuclear Machinist Mate PO2 (E-5)
- Supervised a team as lead enlisted supervisor, ensuring safe and continued operation of nuclear propulsion plant during war time operations such as “Operation Iraqi Freedom”.
- Confidential security clearance.

Education

University of Washington Bothell, WA [2017 - 2018]
- Graduate Certificate in Software Design and Development, GPA: 3.5/4.0
- CS fundamentals: data structures and algorithms, systems programming, and software engineering life cycle and modeling.

University of Washington Seattle, WA [2009 - 2011]
- Bachelor of Science Material Science and Engineering

North Seattle Community College Seattle, WA [2006 - 2009]
- Associate of Science