JARED D. BAKER

PRESENT ADDRESS
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JOB OBJECTIVE

Obtain a career where my knowledge of computational fluid dynamics (CFD) and mechanical engineering background will be useful in solving various types of unique problems pertaining to the needs of the company to facilitate the needs of customers.

EDUCATION

University of Wyoming, Laramie, WY
Bachelor of Science, Mechanical Engineering, May 2010
Fundamentals of Engineering Exam (FE), Fall 2009. Passed

University of Wyoming, Laramie, WY
Master of Science, Mechanical Engineering, Expected December 2012 GPA 3.75/4.0

EXPERIENCE

Graduate Research Assistant — University of Wyoming, Dept. of Mechanical Engineering., Laramie, WY — Fall 2010-Present

Department of Energy (DoE) fellowship to perform computational investigations on performance improvement of wind turbines utilizing several CFD codes to predict power output. Utilization of TURNS along with a structural dynamics code (MBDyn) to develop fluid/structure coupling to analyze a moving spoiler for wind turbine blade root sections. Other software utilized: HELIOS and UWAKE.

Mechanical Engineering Intern — National Center for Atmospheric Research (NCAR), Computational & Information Systems Laboratory, Boulder, CO — Summer 2011

Utilized TileFlow (CFD package dedicated to datacenters) to simulate new supercomputer arrangements (from a HVAC operation perspective)in the NCAR-Wyoming supercomputing facility located in Cheyenne, Wyoming. Included simulations of several cases, technical evaluation of software, and concisely presented relevant optimizations to project manager.

Computer Lab Assistant — University of Wyoming, Engineering Science Interactive Graphics (ESIG) Lab, Laramie, WY — Spring 2009 - Fall 2010

Responsible for assisting students with usage of software packages, maintaining various printers, modernizing college website under Linux CLI, updating laboratory computers by hard drive imaging utilizing Norton Ghost software package. Various projects included PHP, MySQL and JavaScript.

Mechanical Engineering Intern — Belle Fouche Pipeline Company, Casper, WY — Summer 2008

Responsibilities included generating spreadsheets capable of modeling crude oil pipelines based on elevation, pump stations and gathering systems. Suggested improvements for pipeline integrity to gain capacity, performed inventory of pump stations and created tank farm safety spreadsheet to estimate dimensions of tank barricades in possiblity of leak.

COMPUTER SKILLS

- Windows & Linux Operating Systems Power User
- Proficient in office document suites
- Experience with AutoCAD/SolidWorks
- Utilization of OpenFOAM Software
- Web based languages: XHTML, HTML, PHP, JavaScript
- High level languages: Maple, Matlab, Python, Java
- Low level languages: Fortran, C, C++
- Parallelization techniques: MPI and OpenMP

SELECTED PUBLICATIONS

Baker, J., Sitaraman, J., Masarati, P., Quaranta, G. *Computational Investigation of the Sensitivity of Spoiler Attachment on Wind Turbine Blades*, 30th AIAA Applied Aerodynamics Conference, New Orleans, LA, July 2012

Mertes, C., Singh, M., Strike, J., Hind, M., Babbit, A., Baker, J., Naugthon, J.W., Sitaraman, J. *A Study of Flatback Airfoils in Dynamic Motion*, 49th AIAA Aerospace Sciences Meeting, Orlando, FL, Jan 2011

EXTRACURRICULAR ACTIVITIES

American Society of Mechanical Engineers Representative, Fall 2008 - Summer 2009 (JEC Rep.)
Society of Automotive Engineers Representative, Fall 2008 - Spring 2010 (JEC Rep.)
American Society of Mechanical Engineers Representative, Fall 2009 - Spring 2010 (Treasurer)
American Institute of Aerospace & Aeronautics, Summer 2012 - Present (Student Member)

REFERENCES

Jay Sitaraman, Assistant Professor
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