John Wong

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Summary of Qualifications

Broad interdisciplinary computational, programming, coding, and data analytic experiences.
Demonstrated ability in rapidly adopting unfamiliar languages, frameworks, and methodologies.
Exposure to industry technologies and practices such as noSQL solutions and agile development.
Proven track record in tearing down existing code for debugging and performance tune-up.

Education

University of Colorado at Boulder 2008 – 2013
Ph.D., M.S. Atmospheric and Oceanic Sciences

University of Arkansas, Fayetteville 2003 – 2007
M.A., B.S. Physics (Computational); B.S. *magna cum laude* Mathematics (Applied)

Technical skills

Techniques: Data analytics, machine learning, heuristic optimization, heterogenous architectures
Languages: C/C++, Java, Python, Objective-C, Fortran, Javascript, PHP, *NIX scripting
Frameworks and libraries: OpenCL, MPI, OpenMP
IDEs and tools: vi, Xcode, Instruments; Git
Data formats: XML, JSON, NetCDF, HDF5, GTFS
Miscelleneous: IDL, Matlab; LaTeX; MongoDB, SQLs, exposure to Hadoop/Pig, AWS

Selected Projects

Nested Regional Climate Model 2012
Assisting in the development of a next-generation climate model.

Lightning parameterization at the convective scale 2010
Implementing scale-aware lightning parameterization for weather models.

Chemical kinetics with OpenCL (class project) 2010
Implemented a Rosenbrock chemistry model with OpenCL across architectures.

Transport of chemicals assessed with models and satellite observation 2008
A collaboration between scientists from NCAR, CU, NOAA, & NASA JPL.

Improvement to Matlab code for DNA data analysis (hired position) 2007
Vectorized and debugged Matlab codes for processing digital signals.

Web-based application for generating "concept inventory" 2006
Built from the ground up a website for hosting, generating, & managing assignments.

Sourcecode contributions

Refactoring of lightning NOx driver — *NCAR's WRF-Chem v3.5* 2013
Refactoring old implementation and mediating collaborated contributions.

Lightning NOx emission parameterization — *NCAR's WRF-Chem v3.4* 2011
Implemented lightning NOx emission option for convective-scale simulations.

Online tendency diagnostics — *NCAR's WRF-Chem v3.2* 2009
Developed module for decoupling tendency diagnostics for chemical species.

Full C.V. and resume available through `https://github.com/anotherjohnwong/Resume`