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(m), Xcode, Instruments, Eclipse; Git

Data and DBs: XML, JSON, NetCDF, HDF5, GTFS; SQLs, exposure to MongoDB, Cassandra

Miscelleneous: IDL, Matlab; LATEX; various REGEX; exposure to Hadoop/Pig, AWS

SELECTED PROJECTS

Metfolio, LLC 2013

Boosting utilization of weather data through innovative designs and delivery.

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.

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.