

# 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  
**Miscellaneous:** IDL, Matlab;  $\text{\LaTeX}$ ; 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.