

John Wong, Ph.D.

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SUMMARY OF QUALIFICATIONS

- 20+ years of broad multi-disciplinary award-winning software and data analytics experiences.
- Proven track record in modernizing and optimizing business-critical legacy codebases.
- Demonstrated ability to rapidly adopt technologies and methods to solve immediate engineering, science, or business needs.
- An entrepreneurial and holistic view of software that spans all components and all stages of SDLC.

SKILLS

- Hands-on experience with Python, C, C++, Objective-C, Swift, Java, JavaScript, bash scripting; OpenMP, MPI, OpenACC, CUDA.
- RDBMS with SQL e.g. MySQL, Postgres; and NoSQL databases e.g. DynamoDB, Cassandra, MongoDB.
- Fundamental knowledge in containerization, Infrastructure-as-Code (IaC), and relevant technologies such as Docker, Kubernetes, and Terraform.
- Cloud computing experience with various AWS services: EC2, S3, SNS, SQS, IAM, Cloudwatch, Lambda, RDS, DynamoDB, Keyspaces (Cassandra), Glue, etc.
- Solid foundation in computer science, mathematics, physical sciences, and meteorology.
- Understanding of machine learning techniques and theories.
- Scrum agile, CI/CD, AWS well-architected framework, aviation, public speaking, stakeholder and user engagement, scientific research and publication, teaching experience.

PROFESSIONAL EXPERIENCES

Sr. Scientific Software Engineer at *The Weather Company* 2016 – Present
Engineered, operationalized, and maintained GRAF, a GPU-accelerated weather forecasting system. It is the foundational infrastructure that drives all operational forecasting products at TWC, including but not limited to on-air programming, The Weather Channel, Weather Underground, and aviation weather products such as convective and turbulence guidance. Personally architected key components that drive the entire post-processing pipeline. Proactively modernized legacy operational infrastructures to ensure security and business continuity. Mentored team members on agile methodologies and software engineering best practices.

- Delivering the world's most-accurate¹ weather forecast year after year.
- 1000x+ speed-up of the MPAS SCVT mesh generation algorithm using innovative techniques — a key enabling factor of GRAF to meet evolving business needs.
- 90%+ reduction in runtime for multiple internal meteorological verification toolchains, enabling stakeholders to generate the necessary reporting metrics in a timely manner.
- Recipient of the IBM Outstanding Technical Achievement Award (2020) for GRAF.

¹ https://forecastwatch.com/wp-content/uploads/Global_and_Regional_Weather_Forecast_Accuracy_Overview_2017-2022.pdf

iOS Software Developer at *Weather Services International*

2014 – 2016

Revitalized WSI Pilotbrief, an iPad app used by commercial pilots at major airlines. Provided critical insight and skills required to address numerous long-standing defects and performance issues. Contributed much-needed domain expertise in aviation and meteorology to the existing team of software developers.

- 95% reduction in failure rate; significantly improved user experience and satisfaction by spearheading a major effort to revamp the internals of the app to improve reliability.
- Doubled engineering team's velocity by encouraging value-based prioritization and risk-mitigating engineering practices by anticipating changes.
- Ensured smooth feature rollouts by managing the beta program. Interfacing with participants and collaborating with stakeholders to solicit user feedback, which is then translated into actionable engineering tasks.

EDUCATION

University of Colorado at Boulder

2008 – 2013

Ph.D., M.S. Atmospheric and Oceanic Sciences

CERTIFICATIONS

AWS Certified Solutions Architect Associate (SAA-C03)

issued by Amazon Web Services, Mar 2024

Scrum Product Owner Certified

issued by SCRUMstudy, Jan 2024

AWS Certified Cloud Practitioner (CLF-C02)

issued by Amazon Web Services, Sep 2023

Scrum Master Certified

issued by SCRUMstudy, May 2023

Private Pilot License

issued by the Federal Aviation Administration, Nov 2016