

Ray Wang

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Technical Skills

- R (ggplot, data.table), Python (pandas, scikit-learn, numba)
- Dynamic discrete choice modeling, structural demand estimation, causal inference
- Machine learning (random forests), regression (linear, logistic), exploratory data analysis

Work Experience

Center for Naval Analyses (CNA) | Arlington, VA

Research Scientist / Economist | Nov 2023 – Present

Research Analyst / Economist | Jun 2020 – Oct 2022

- Modeled sailor re-enlistment decisions using 7 million+ panel observations, via conditional choice probability (CCP) estimation in **R**. Simulated counterfactual policy impacts, visualized results, and provided recommendations to military leadership, affecting implementation of Navy's Detailing Marketplace Assignment Policy (DMAP)
- Within one year, learned legacy codebase and improved model fit, led project that extended Navy-specific codebase to work with Marine Corps data, and on-boarded and mentored incoming staff
- Developed metric to predict military recruiting in different geographic regions, using LASSO methods

CNA Field Representative to Carrier Strike Group (CSG) 12 | Oct 2022 – Nov 2023

- Directly supported Commander, CSG-12 with analysis on operational topics including electronic warfare tactics and optimizing flight operations for first-in-class aircraft carrier. Embarked on board USS *Gerald R. Ford* for Oct - Nov 2022 and May - Nov 2023 deployments
- Worked independently in a fast turnaround and technology-constrained environment. Conducted interviews with junior and senior sailors, collected and analyzed quantitative and qualitative data, and provided recommendations to leadership and action officers

DC Energy | Vienna, VA

Analyst | Sep 2012 – Oct 2013

- Analyzed electricity and steel/iron ore markets using **R** and **SQL**, proposed trades with 20% returns over 6 mos.
- Developed dashboards with **PHP** and **R Shiny** to visualize prices in support of daily trading

Education

PhD in Economics

University of North Carolina at Chapel Hill | 2014 - 2020

- Data visualization in **R**, data cleaning and program execution time optimization in **Python**

BS Eng. in Operations Research and Financial Engineering

Princeton University | 2008 - 2012

Other

- Top Secret security clearance (Nov 2022 – Present), Secret security clearance (Jan 2021 – Nov 2022)
- Fluent in English and Chinese