Nicholas R. Grunloh

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Experience

Statistician   *Oct. 2014 - present*
NOAA, *National Marine Fisheries Service*

- Worked with scientists to develop annual length distributions, collaborated in building large-scale population dynamics models, and developed database connections from state and other data resources for use in stock assessments (2023 Black Rockfish, 2017 Blue Rockfish).
- Worked with the California Cooperative Sampling Program to translate legacy Visual Basic code into an R package.
- Developed R and Python codes to fit Hierarchical GLMs to improve catch estimation.
- Designed a cluster to expedite the data pipeline for propagating the CALCOM SQL database.
- Developed a parallel paradigm for automating model exploration in catch estimation (slides).

Thesis Research   *Sept. 2011 - present*
UCSC, *Applied Mathematics & Statistics*

- Derived an adaptive simulation design for computer experiments in estimating fisheries management reference points (RP).
- Built an R6 modeling class for evaluating and estimating delay differential dynamics models.
- Developed a Gaussian process surrogate model for clustering simulated RP estimation (poster).
- Statistical process control and moving average models for monitoring the progress of surrogate model optimization of computer experiments (M.S. Thesis).
- Developed a Python code for modeling behavioral evolution using stochastic dynamic programming simulations (B.S. Thesis).

Teaching   *Fall '12 - Spring '21*

- Instructor

Probability of Games	Statistics	Elementary Stats.
UC Santa Cruz	*UC Santa Cruz*	*Cabrillo College*

- Teaching Assistant

Computational Methods	Differential Equations	Statistics
Applied Mathematics	*Applied Mathematics*	*Statistical Science*
Biostatistics	Statistics in Sociology	Genetics
Statistical Science	*Sociology*	*Biology*

Programming Languages/Technologies

R 5+ years	Python 4 years	C++ 3 years	OpenMP 2 years	MPI 1 year
Unix 5+ years	SQL 3 years	Visual Basic as needed	HTML as needed	Docker as needed

Education

Ph.D. Statistical Science   *Aug. 2024*
University of California at Santa Cruz   *Intended*

M.S. Applied Mathematics & Statistics   *Aug. 2014*
University of California at Santa Cruz

B.S. Marine Biology/Minor Statistics, *Cum Laude*   *June 2012*
University of California at Santa Cruz