Reece Boston, Ph.D. Physics

numerical astrophysics researcher

expert scientific software engineer

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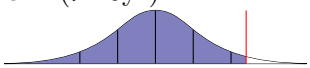
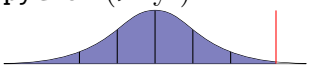
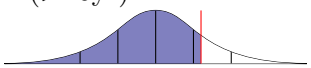
- C++ (>10yr) 
- python (>4yr) 
- R (>10yr) 

- Misc.: GNU/Linux, bash, R, git, fortran, Java, HTML, Objective-C, x86 assembler.

Work Experience

Scientific Software Engineer at ORNL — **Mar 2023 - present**

- design, build, test, and document code base for neutron scattering data reduction

Technology: C++17; python [pydantic, pytest, pyqt, mantid]; ubuntu linux; agile [scrum].

Quant Researcher at Anchorage Digital — **Oct 2022 - Mar 2023**

- analyze cryptocurrency market liquidity

Technology: python [pandas, gsheets]; Google Cloud; BigQuery.

R&D Data Scientist at Community — **Sep 2021 - Jun 2022**

- analyze big data for product insights using causal inference and market archetyping

Technology: python [pandas, numpy, sklearn, spaCy]; github; Snowflake SQL; Docker; AWS.

Research Assistant at University of North Carolina — **Aug 2016 - May 2022**

- conducted scientific research leading to original publications

Technology: C++14 [gcc, STL, MPI multithreading, make]; bash scripting; github; fortran.

Research Codes

Thrain: High-precision asteroseismology code for simple white dwarf stars.

SNAPRed: Neutron scattering data reduction code for highly-reconfigurable instruments.

Research Publications

- Alejandro H. Córsico, S. Reece Boston et al, "General relativistic pulsations of ultra-massive ZZ Ceti stars," MNRAS, (2023).
- Boston, S. Reece, C. R. Evans and J. C. Clemens, "Relativistic Corrections in White Dwarf Asteroseismology." Astrophysical Journal, (2023)
- Boston, S. Reece, *Newtonian and Relativistic White Dwarf Asteroseismology*, Ph.D. dissertation, UNC, (2022).
- de Souza, Rafael, S. Reece Boston, Alain Coc, and Christian Iliadis, "Thermonuclear fusion rates for tritium+deuterium using Bayesian methods." Physical Review C, (2018).
- Boston, S. Reece, "Time travel in transformation optics." Physical Review D, (2015).

Ph.D., Physics University of North Carolina — **2022**

M.S., Physics University of Georgia — **2015**

B.S., Mathematics and Physics Georgia College — **2010**