August Weinbren
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Education

Johns Hopkins University, Baltimore, MD, USA **Graduated December 2019**
B.S. with Honors, Environmental Engineering / Applied Mathematics & Statistics

- **GPA:** 3.6/4.0

Work Experience

Met Office **Exeter, UK**
Foundation Scientific Software Engineer, Next Generation Modelling Systems *March 2020-Present*

- Member of Met Office team working with partner organizations on Joint Effort for Data assimilation Integration (JEDI) project
- Contributing pull requests and participating in code reviews associated with observation processing repositories

Greenhouse Gas Lab, Johns Hopkins University **Baltimore, MD, USA**
Research Assistant *April 2019-February 2020*

- Adapted spatial covariance-based method of downscaling carbon dioxide data for wintertime case study
- Wrote and debugged R scripts ran on linux-based supercomputer to analyze and compress NASA OCO-2 carbon dioxide satellite data
- Compressed satellite data using geostatistical methods of variogram analysis and kriging
- Edited Matlab scripts to compare calculated carbon dioxide sources and sinks based on both the original and compressed datasets using WRF-STILT inverse model
- Plotted results in R using ggplot2
- Version control of code with Git
- `https://agu.confex.com/agu/fm19/meetingapp.cgi/Paper/605097`

Office of Academic Support, Johns Hopkins University **Baltimore, MD, USA**
Peer Tutor, Calculus III *September 2017-May 2019*

- Designed and wrote out solutions to practice problem sets with other peer tutors on weekly basis
- Guided 10-15 students through problem sets and reinforced material during weekly 2-hour sessions
- Ran three review sessions per semester with 25-40 students in attendance

Landscape Hydrology Lab, Johns Hopkins University **Baltimore, MD, USA**
Research Assistant *June 2017-August 2017*

- Designed, planned and constructed sharp-crested weir for long-term measurement of flow rate in Baisman Run, MD
- Mentored high school student on wet-lab technique, project management, and data analysis

Independent Projects

Decision Analysis: Smart Dishwasher *January 2019-February 2019*

- Discretized electricity price data in Python using Extended Pearson Tukey method
- Evaluated a discounted cash savings of roughly $75.00 in buying a smart dishwasher

Internet-of-Things Food Computer for JHU Food System Lab @ Cylburn *July 2017-October 2017*

- Used Arduino microprocessor and temperature probes for continuous temperature measurement of fish tank and surrounding greenhouse
- Relayed temperature data to web server, notifying lab personnel to fix water/air heaters if malfunctioning

Core Technical Skills

Programming Languages: C++, C, R, Java, Python, Matlab, Assembly (MIPS, 6502, x86)
Other: Unix, Shell Scripting, LaTeX