

# Brennan A. Borlaug

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**EDUCATION:** **Master of Information and Data Science**, *University of California*, Berkeley, CA.  
August 2015- Present. GPA: 3.88 (18 credits).

**B.Sc. Mechanical Engineering**, *Washington State University: Tri-Cities*, Richland, WA.  
May 2011- May 2014. GPA: 3.81.

**EXPERIENCE:** **Graduate Research Intern**, *Systems Analysis & Integration Section, National Renewable Energy Laboratory (NREL)*, Golden, CO. July 2014 - Present.

- Developed algorithm to match self-reported vehicle year, make, and model entries to vehicles listed in EPA fuel economy data set.

**Engineering Intern**, *United Western Technologies (UniWest)*, Pasco, WA.  
May 2014 - July 2014.

- Wired and wrote standalone programs that dictated the control of an automated eddy current testing system prototype.

**Technical Intern**, *Materials & Structures Performance Group, Pacific Northwest National Laboratory (PNNL)*, Richland, WA. May 2013 - July 2014.

- Collected data and provided visualizations for bolt load retention test results for Mg-alloys.

**Engineering Peer Mentor**, *Washington State University: Tri-Cities*, Richland, WA.  
January 2013 - May 2013.

- Assisted first-year engineering students in understanding what is necessary of a successful engineering student.

**D4 Project Engineering Intern**, *Washington Closure Hanford*, Richland, WA.  
May 2012 – December 2012.

- Mapped locations of miscellaneous restoration items. Combined GPS coordinates with photos and detailed descriptions to produce a comprehensive database.

**PROJECTS:** **Transportation Secure Data Center, NREL:** Supported and grew the TSDC, a free resource providing access to detailed transportation data from a variety of travel surveys and studies. This centralized repository relieves individual agencies from the burden of fielding data-access requests and provides supplemental features such as linked reference layers, road network matching, and data filtering.

**Random Acts of Pizza Competition, UCB MIDS:** Developed a logistic regression model for *DATASCI W207: Introduction to Machine Learning* using features available at the time of posting to the Random Acts of Pizza sub-Reddit to predict whether or not a request would be fulfilled. Final model achieved an accuracy of 76.36% on the development set.

**Twitter Language Explorer, UCB MIDS:** Presented an interactive public dashboard for the analysis of linguistic trends on Twitter as the final project for *DATASCI W251: Scaling Up! Really Big Data*. This was accomplished by developing a fully distributed processing pipeline (using Cassandra and Spark) to take a large number of unstructured Tweets and present them in a coherent fashion via a front-end Shiny UI.

**SKILLS:** Python (numpy, pandas, matplotlib, psycopg2), R, SQL, Windows and Linux platforms, machine learning algorithms (scikit-learn), RDBMS (PostgreSQL), NoSQL (Cassandra), Hadoop (MapReduce), Spark, cloud computing (AWS, SoftLayer, etc.), statistical methods.

## CERTIFICATIONS

**/AFFILIATIONS:**

- Member, American Statistical Association
- Member, Association for Computing Machinery
- State of Washington: Engineer-In-Training Certification, 2013

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