

# Bryan Melchert

GRADUATE RESEARCH ASSISTANT  
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## Education

**M.S. Mathematics** (emphasis: Statistics, Data Science) - Graduate Research Assistant (*3.67 GPA*)  
*Purdue University, Fort Wayne, IN ~ 2018-Current*

- Research Project: Forecasting salmon migration timing using time series machine learning for \$1.5B Alaskan commercial fishery. Publishable work includes LSTM, Garch, ARIMA, & GAM modelling with Bayesian hyperparameter optimization and EDA/ results visualization using Tableau & Bokeh
- Research Project: Neural network and ensemble classification model identifying primary patient satisfaction predictors for public health department using survey response database.
- Relevant coursework: Algorithm Design, Optimization, Probability, Statistical Modeling & Learning, Time Series, Design of Experiments (A/B Testing), Linear Algebra, Big Data & Cloud Computing
- DataCamp certifications: *Data Scientist w/ Python* career track, *Importing & Cleaning Data*, *Machine Learning*, *Data Manipulation*, *Python Programming*, *R Programming*
- Organizations: American Statistical Association, American Mathematical Society, Purdue Pi Club

**B.S. Industrial and Systems Engineering** (Minor in Mathematics) – Magna Cum Laude  
*University of Wisconsin – Platteville, Platteville, WI ~ 2016-2018*

- Senior projects in team engineering environment using linear and mixed integer programming with LINGO to optimize vehicle route scheduling and reduce freight shipping costs by \$8300 globally
- Relevant Coursework: Regression Analysis, Quality Engineering, Operations Research, Production & Operations Analysis, Six Sigma and Lean, Statistical Process Control, Engineering Economics
- Awards: Dean's List; Tau Beta Pi Honors Engineering Society; Alpha Pi Mu Honors I.E. Society

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## Skills

*Computation:* Python (Tensorflow, Keras, Scikit-learn), R (Rstudio, Rmarkdown), SQL, LINGO, Minitab, Bokeh, Tableau, Github, Matlab

*Data Science:* Machine & deep learning, Data visualization/ cleaning/ transformation, Database querying

*Management:* Six Sigma Green Belt, Project management, Customer service, Budgeting, Scheduling

*Prototyping:* Solidworks, Fusion360, CNC machining, 3D printing & finishing, Arduino microcontrolling

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## Professional Experience

**Commercial Fisherman - F/V Bracor Bay; Bristol Bay, AK** (*Summers from 2011-2018*)

Deckhand on salmon gillnetter performing all duties of fishing, navigation, and seamanship to high level

**Owner and Skilled Tradesman - 3<sup>rd</sup> Coast Painting & Remodeling; Aurora, IL** (*2013-2017*)

Cofounded and managed residential construction company; Performed all sales and project planning

**Operations Manager - Sodexo, Inc; Chicago, IL** (*2008-2012*)

Managed 13 employees and \$125,000 annual budget overseeing all campus grounds and sports fields

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## References

**Dr. Yihao Deng**, Professor of Statistics

t: (260) 481-4185 e: dengy@pfw.edu

**Dr. Peter Dragnev**, Mathematics Department Chair

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**Corey Boone**, Captain F/V Bracor Bay

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