# Abhinav Prakash

abhinavp@tamu.edu | abhiprak | abhinavprak | Work Authorization : F1

## Objective

I am a Ph.D. candidate seeking a full-time opportunity in the field of data science and machine learning.

## Education

Texas A&M University [Fall '16 - Aug '22 (expected)]
Ph.D., Industrial Engineering (GPA: 3.93), Advisor: Prof. Yu Ding

Visvesvarya National Institute of Technology, Nagpur, India [July '08 - May '12]
B. Tech., Mechanical Engineeing (GPA: 3.4)

## Relevant Work Experience

Research Scientist Intern, *Amazon* [May '21 - Aug '21]
Predictive modeling for one of the metrics used by supply chain optimization technology (SCOT) team.

Research Assistant, *Texas A&M University* [May '17 - present]
Developed data science models for wind power curve estimation and comparison using Gaussian processes, time-series analysis, and Bayesian inference.

## Publications

- **Prakash A.**, Tuo R., & Ding, Y. (2021). Gaussian process aided function comparison using noisy scattered data. *Technometrics.*
- Ding, Y., Kumar, N., **Prakash, A.**, Kio, A. E., Liu, X., Liu, L., & Li, Q. (2021). A case study of space-time performance comparison of wind turbines on a wind farm. *Renewable Energy*.
- **Prakash, A.**, Panchang, V., Ding, Y., & Ntaimo, L. (2020) Sign constrained Bayesian inference for nonstationary models of extreme events, *Journal of Waterway, Port, Coastal, and Ocean Engineering.*
- **Prakash A.**, Tuo R., & Ding, Y. (2020). The temporal overfitting problem with applications in wind power curve modeling. *arXiv preprint arXiv:2012.01349. (under review).*

## Technical Skills

- **Data science:** Machine learning, Statistical modeling, Nonparametric regression, Convex optimization, Regression with time series data, Bayesian inference, High-dimensional hypothesis testing.
- **Programming, scripting, and query languages:** Python, R, C++, MATLAB, SQL, Shell scripting.
- **ML and linear algebra libraries:** Numpy, Scipy, Pandas, Scikit-Learn, XGBoost, High performance math libraries (Intel MKL, OpenBLAS etc.), Armadillo/RcppArmadillo.
- **Computing:** Good understanding of data structures, time and space complexity, vectorization, high performance computing (batch computing using LSF and SLURM), Linux CLI, and AWS.
- **Code management:** Git, PEP8 linting, Virtual environments.

## Selected Projects

- R package: DSWE *(Data Science for Wind Energy)* - Developed an R package for the data science models developed by my research group. Implemented the compute intensive algorithms in C++ with R wrapper using Rcpp and RcppArmadillo (`https://github.com/TAMU-AML/DSWE-Package`).
- Class competition (*winning team*): Wind power prediction challenge - Applied various machine learning algorithms with modified cross-validation schemes, as the data was not independent, to do the optimal hyperparameter tuning. Used ensemble of trees as the final method. (Course: Analysis & Prediction).
- Sample average approximation scheme on L-shaped algorithm for solving large scale stochastic linear program using CPLEX callable library in C++. (Course: Large Scale Stochastic Optimization).

## Relevant Graduate Coursework

Analysis & Prediction, Theory of Inference, Advanced Spatial Statistics, Learning and Optimization on Networks, Large Scale Stochastic Optimization, Linear Programming, Nonlinear & Dynamic programming, Forecasting for Renewables.

# Abhinav Prakash

abhinavp@tamu.edu | abhiprak | abhinavprak | Work Authorization : F1

**Other Work Experience**

Executive, *Bharat Petroleum Corporation Limited*, India [Jul '13 - Apr '15]

Managed a network of 86 fuel stations (gas stations) franchise in seven districts; worked on sales and business development, equipment upgrade, and quality control.

Management Trainee, *Bharat Petroleum Corporation Limited*, India [Jul '12 - Jul '13]

**Academic Accomplishments and Service**

- *Runner-up*, Best Student Paper Award in the Energy Systems track at the IISE Annual Conference, 2021.
- *Invited Peer Reviewer*, Journal: Springer Nature Operations Research Forum.
- *Vice President (Marketing)*, INFORMS Student Chapter, TAMU (Jan 2020 to Dec 2020).