TIME SERIES ANALYSIS FOR ENERGY DATA

COURSE RECAP

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What have we learned in TSA?

Filtering and Preparation
- Initial Plots
- Trend
- Seasonality
- Stationarity Test
- Outliers
- Missing Data

Estimation
- Auto Correlation Function
- Partial Autocorrelation Function
- Model Parameter estimation

Forecasting
- Forecast
- Model accuracy
- Model Selection
- **Scenario generation**
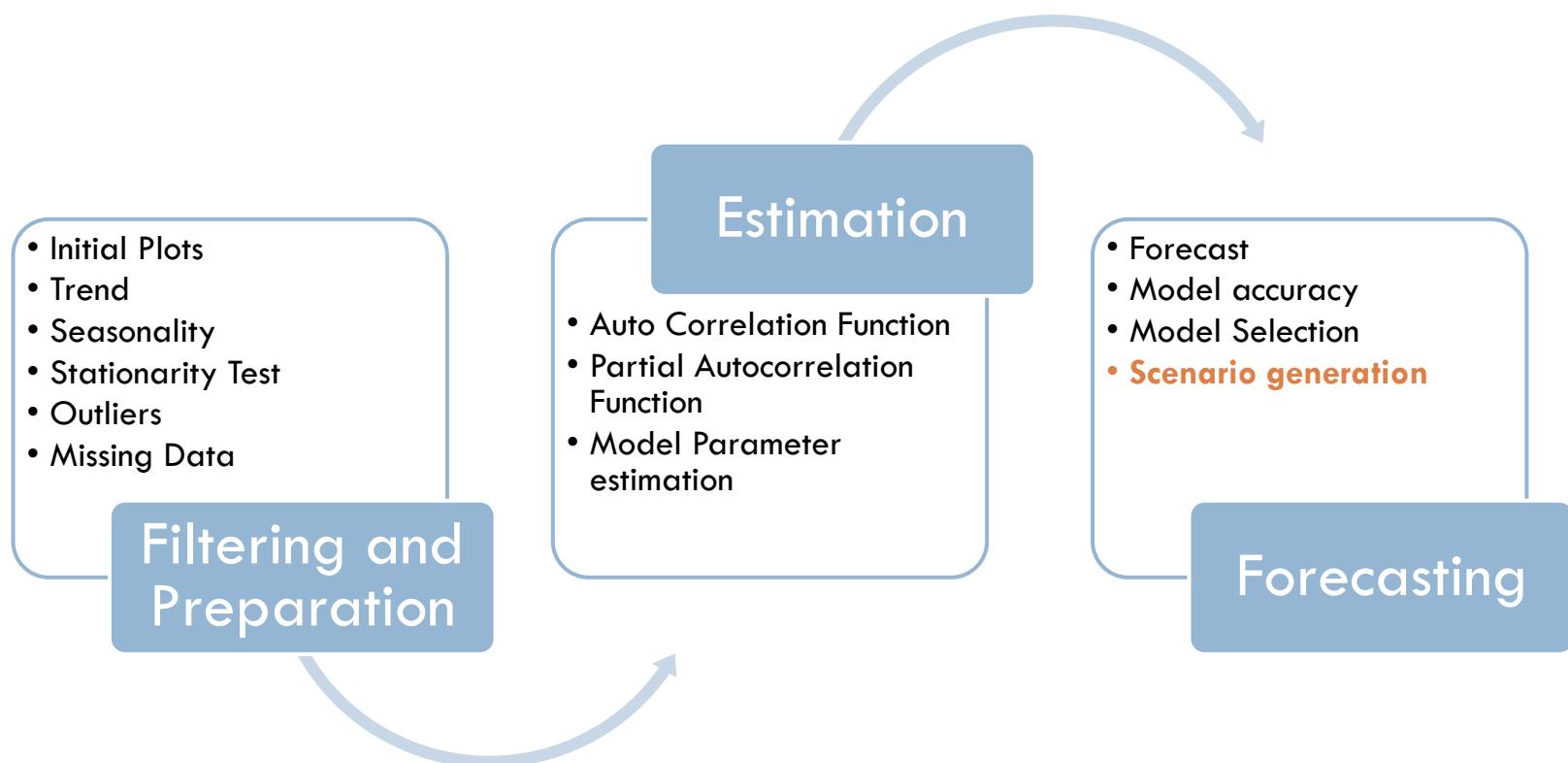
Platforms/Language

Models Recap

- ARIMA and its variations
- SARIMA
- Simple average techniques, Naïve
- Exponential Smoothing
- ARIMA + Fourier
- State Space Models
  - Local level, linear trend, basic structure model,
  - Exponential smoothing, ETS
  - TBATS
- AR neural networks

You're rocking Kaggle!

#	Team	Members	Score	Entries	Last	Join
1	Nannaphat_Lynn_Team		21.68088	1	1d	
2	Girl Scout Cookie Gobblers		22.44504	12	1d	
3	HTEAM		24.26786	4	15h	
4	Wendys		25.21232	3	1d	
5	Yuxiang & Karen		26.11482	4	2d	
	vanilla_model.csv		32.61114			
6	maggieoshea		48.62840	2	11h	
7	TonyJJJ		48.63488	1	11h	

Coming up: Project presentations

Group	Member 1	Member 2	Member 3	Dur	Date	Start	End
G3	Justin DePue	Tony Jiang	John Rooney	8	11-Apr	12:02 PM	12:13 PM
G5	Jon Ekberg	Caroline Ren		8	11-Apr	12:13 PM	12:24 PM
G6	Eliza Henderson	Kristen Trinh	Angela Zeng	8	11-Apr	12:24 PM	12:35 PM
G7	Yuxiang Ren	Kassie Huang	Yu Huan	8	11-Apr	12:35 PM	12:46 PM
G8	Ryan McCord	Biz Yoder		8	11-Apr	12:46 PM	12:57 PM
G10	Michael Audie	Karen Thornton	Hannah	8	11-Apr	12:57 PM	1:08 PM
G1	Elise Boos	Kelsey Husted	Taro Katayama	8	18-Apr	12:02 PM	12:13 PM
G2	Katehrine Burley			8	18-Apr	12:13 PM	12:24 PM
G4	Jinxi Liu	Zhengqi Jiao	Yinan Ding	8	18-Apr	12:24 PM	12:35 PM
G9	Hugh Cipparone	Maggie O'Shea	Nannaphat Sirison	8	18-Apr	12:35 PM	12:46 PM
G11	Wendy Wen	Sebrina Zu	Qiuying Liao	8	18-Apr	12:46 PM	12:57 PM
G12	Haru Koga	Lynn Wu	Miaojun Pang	8	18-Apr	12:57 PM	1:08 PM

THANK YOU TO OUR TAs
Yu and Tatiana!!

Course Evaluations

- ENVIRON 790.30: Time Series Analysis for Energy Data
- Instructor 1: Luana Lima
- Instructor 2: NA
- TA:
  - Yu Hai
  - Tatiana Sokolova (grader only)