

# B. Selin Tosun

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*Data Scientist with 9+ years of experience in analytical problem solving*

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## Technical Skills

**Expertise:** Python (pandas, NumPy, Seaborn, Scikit-learn, TensorFlow), SQL, Fortran 90, MatLab, Mathematica, Machine Learning, Feature Engineering, Experimental Design, Statistical Analysis, Git, AWS

**Proficient:** Spark, Hadoop, QGIS, Cuda, AI, Flask, HTML, JavaScript, CSS & IBM Watson Analytics

## Professional Experience

**Data Science Fellow**, Insight, Seattle, WA January 2018 – present

- Built & developed [takeapic.online](https://takeapic.online), a Facial Expression Analyzer using Convolutional Neural Network (CNN) in Python (Keras-TensorFlow, Cuda) to improve social media experience
  - Built multi-classification CNN with Facial Expression Data Base of 55K+ images using AWS EC2/GPU instance
  - Achieved > 98% accuracy by 3-fold cross-validation

**Data Science Immersive Fellow**, Galvanize, Inc., Seattle, WA June 2017 – September 2017

- Built & developed [street-smart-realty.com](https://street-smart-realty.com), a Real-Estate housing price estimator using Python (pandas, NumPy, scikit-learn, matplotlib) and QGIS
- Gathered data (1.5 GB) from: King County, Seattle Public Schools, Great Schools, Zillow
  - Achieved model performance of 11.3% median absolute percent error through Grid-Search of Random Forest, Gradient Boosting, XGBoost, SVM, Elastic Net on AWS EC2 instance

**Senior Process Engineer**, Intel Corporation, Hillsboro, OR April 2015 – April 2017

- Developed new plasma etching processes for continuously evolving state-of-the-art transistors; optimized the process to increase yield by 10% in < 4 months
- Anomaly detection experience by eliminating present and probable future defects by investigating details of tool design
- Published a white paper on upgrading the reliability of etch tools to improve part lifetime

**Post-Doctoral Research Associate**, University of Washington, Seattle, WA July 2013 – February 2015

- Built a novel spectrometer to analyze, and improve solar cell device efficiencies as a function of thickness
- Modeled solar cell device performance for accurate detections in MatLab

**Research Assistant**, University of Minnesota, Minneapolis, MN January 2009 – June 2013

- Developed and synthesized new materials for state-of-the-art thin film solar cell devices
- Performed experimental design producing 1000+ samples for each experiment group and compared with the base-line (1000+ samples) to identify significant differences in each trial in MatLab
- Improved lifetime of these solar cell devices from < 20 years to 40+ years: [2 US Patents](#), [7 peer-review articles](#)

## Education

**Certificate in Data Science** September 2017

Galvanize Inc., Seattle, WA

**Certificate in SQL & Python Fundamentals** April 2017

SOLO Learn Inc.

**Ph.D. in Chemical Engineering** June 2013

University of Minnesota, Minneapolis, USA (In top 3 Graduate ChemE programs in US: MIT, UMN, CalTech)

- Doctoral Dissertation Fellowship: awarded to top 1% of the graduating Ph.D. students

**B.Sc. in Chemical Engineering, *summa cum laude*** June 2007

Istanbul Technical University, Turkey

**B.Sc. in Material Science and Metallurgical Engineering, *magna cum laude*** June 2008

Istanbul Technical University, Turkey