B. Selin Tosun

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Patents, Publications. Honors, and Awards: banuselintosun.com

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Data Scientist with 9+ years of experience in analytical problem solving at materials research and manufacturing

Technical Skills

- **Expertise:** Data science & analysis, Python (pandas, NumPy, scikit-learn, TensorFlow), MatLab, SQL, Machine learning algorithms, Experiment Design
- **Proficient:** Git, Spark, Hadoop, QGIS, AI, Flask, HTML, JavaScript & CSS

Professional Experience

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

- Built & developed www.takeapic.online, a Facial Expression Analyzer built using Convolutional Neural Network (CNN) in Python (Keras-TensorFlow, Cuda)
  - 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 Student, Galvanize, Inc., Seattle, WA — June 2017 – September 2017

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

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

- Experiment Design experience with developing new plasma etching processes for continuously evolving state-of-the-art transistors; optimized the process to increase yield in less than 4 months
- Anomaly detection experience by eliminating present and probable future defects by investigating details of tool design and improved yield by 10%
- 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

- Experiment Design experience with building a multicolor photo-luminescence spectrometer for the first time for photo-generated carrier analysis:

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

- Experiment Design with synthesizing and developing new materials for state-of-the-art chalcogenide based thin film solar cells and improved their lifetime from less than 20 years to over 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