

Selman Tunc Yilmaz

Physics Ph.D. turned Data Scientist

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EDUCATION *MSc, Analytics University of San Francisco* 07/2015 (expected)
 PhD, Physics ETH Zurich, Switzerland 10/2007 - 07/2011
 MSc, Physics ETH Zurich, Switzerland 10/2006 - 10/2007
 BSc, Materials Science, Sabanci University, Istanbul Turkey 09/2002 - 07/2006

SKILLS Python, R, Statistics, MySQL, Postgres, MongoDB, Matlab, Machine Learning, Web
 Scraping, ETL, SAS. Hands-on experience with Java, Hadoop, Spark, AWS.
 Languages: English, German, Turkish (all fluent, spoken and written).

EMPLOYMENT *Intern, **AutoGrid Systems**, Redwood Shores, CA* 11/2014 - present

- Implemented **time series analysis** for electric load forecasting using Neural Networks, Generalized Linear Models, SARIMA and Holt Winters models.

*Postdoctoral Researcher, **University of California, Berkeley*** 11/2011 - 04/2014

- Identified fluorescent signals in noisy images by developing **image processing** methods using IDL and Matlab.
- Modified step-finding algorithms for experimental time-series data using Matlab.
- Quantified experimental results by creating a probabilistic model of experimental conditions.

*Research and Teaching Assistant, **ETH Zurich**, Switzerland* 10/2007 - 07/2011

- Simulated** quantum mechanical phenomena in Matlab to support experimental results.
- Automated experiments by writing large scale LabView and Matlab programs for device control and **data acquisition**.
- Developed physical models of nano-structures by designing and running experiments and analysing experimental data.
- Lectured, prepared and graded exams and assignments for graduate and undergraduate level Physics classes.

Selected Coursework *MSc Analytics, University of San Francisco* 07/2014 - present

- Performed **sentiment analysis** classification on movie reviews using Random Forests, Logistic Regression and Naive Bayes algorithms. Implemented Neural Networks for feature engineering (top 10% on the Kaggle board).
- Webscraped** Yelp and Eventful websites to create animated maps with Shiny and ggplot2 packages in R that indicate restaurants and nearby social events.
- Implemented a **RESTful** service using Python Flask and MongoDB.
- Created a **search engine** by implementing TF-IDF weighting scheme on 80,000 XML documents using Python.

PUBLICATIONS

- Books** S.T. Yilmaz. *Exploring Single Spin Physics in Self-Assembled Quantum Dots*. SVH-Verlag (2011).
- Papers** P. Fallahi, S.T. Yilmaz, A. Imamoglu. *Observation of heavy-hole hyperfine interaction in quantum dots*. Phys. Rev. Lett., 105, 257402 (2010).
- S.T. Yilmaz, P. Fallahi, A. Imamoglu. *Quantum-dot-spin single photon interface*. Phys. Rev. Lett., 105, 033601 (2010).
- N. Vamivakas, M. Atature, J. Dreiser, S.T. Yilmaz, A. Badolato, A.K. Swan, B.B. Goldberg, A. Imamoglu, M.S. Unlu. *Strong extinction of a far-field laser beam by a single quantum dot*. Nano Lett., 7 (9), 2892 (2007).
- S.T. Yilmaz, U. D. Ozugurel, K. Bulut, M. N. Inci. *Vibration amplitude analysis with a single frame using a structured light pattern of a four-core optical fibre*. Optics Communications, 249, 515 (2005).
- Peer-Reviewed
CONFERENCE
PRESENTA-
TIONS** *Electron-spin single-photon interface in a quantum dot*. Frontiers in Optics (2010), Rochester, NY, USA.
- Time-resolved electron spin measurement in a quantum dot*. Marie Curie EMALI Conference (2010), Barcelona, Spain.