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 Zürich, Switzerland	10/2007 - 07/2011
MSc, Physics ETH Zürich, Switzerland	10/2006 - 10/2007
BSc, Materials Science, Sabancı University, Istanbul Turkey	09/2002 - 07/2006

EMPLOYMENT

Postdoc, **University of California, Berkeley**	11/2011 - 04/2014
Research and Teaching Assistant, ETH Zürich, Switzerland	10/2007 - 07/2011

EXPERIENCE

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

- Classified movie reviews using Naïve Bayes' algorithm in Python.
- Created a search engine by implementing TF-IDF weighting scheme on 80,000 XML documents using Python.
- Created a classifier that recognizes handwritten digits by implementing neural networks with Octave. (independent project)
- Classified human activity based on sensor data from cell phones with 561 variables by implementing classification trees in R. (independent project)

Postdoc, 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 own experimental time-series data using Matlab.
- Quantified experimental results by creating a probabilistic model of the experimental conditions.

Research Assistant, ETH Zürich, Switzerland 10/2007 - 07/2011

- Simulated quantum phenomena in Matlab to support own experimental results.
- Automated experiments by writing large scale LabView and Matlab codes for device control and data acquisition.
- Developed physical models of nano-structures by designing and running experiments, by cleaning and analysing the experimental data.

SKILLS

Python, R, Matlab, MySQL, Data Mining, Statistics.
Languages: English, German, Turkish (all fluent, spoken and written).

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 PRESENTATIONS

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.