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Nikos Daniilidis

Profile

Scientist committed to extracting insights from data-intensive applications.

Background:	Atomic physics; condensed matter physics; electrical & computer engineering
Expertise:	Scientific programming & data analysis; modeling & characterization; computer-aided control & optimization; scientific writing
Team worker:	Worked with large teams building complex experimental setups
Presenter:	10+ years experience presenting at conferences & funding-review meetings
Supervisor:	Guided graduate and undergraduate students in their projects
Manager:	Co-authored research grants, helped plan & set up UC Berkeley ion trapping lab

Education

2007 **PhD, Physics**, *Brown University*, X. S. Ling group.
Statistical data analysis: regression analysis, hypothesis testing, data analysis pipeline development (Matlab)

2003 **MSc, Physics**, *Brown University*.
Statistical physics, ODEs, PDEs, Complex Analysis

2001 **Diploma, Electrical & Computer Engineering**, *National Technical University of Athens*, (5 year degree, Bachelor's & MSc combined).
Algorithms & Data Structures (C), Numerical Analysis (FORTRAN), Signal Processing, Probability, Statistics

Professional Experience

2009–2014 **Post Doc**, *University of California, Berkeley*, H. Häffner group.
Designed, analyzed experiments, built ion-trap analysis & control toolbox (Matlab), coauthored grants.

2007-2009 **Post Doc**, *Institute for Quantum Optics and Quantum Information*, Austria.
Designed, analyzed experiments, built data analysis pipeline (Matlab, Python), built/tested ion trap electrostatic solver pipeline (Ansoft Maxwell, Simion CPO, Matlab).

2007–2008 **Post Doc**, *ETH Zürich*, Zurich, Switzerland, A. Wallraff group.
Fabricated the first 'made in Europe' ion trap microchips.

Programming Skills

Scientific programming	Python (proficient), Matlab (proficient), R (intermediate), Scala (basic), SQL (intermediate)
DFS	Hadoop/MapReduce (intermediate), Spark (basic)
Data Munging & Analysis	XML, HTML, JSON, PDF, text, floating point streams, binary streams

General Skills

Scientific writing	Grant proposals, scientific commentaries, research articles, review articles
Design & Modeling	Experiment design, statistical analysis, modeling & characterization of noise processes, electromagnetic simulations
Prototyping	RF & digital electronics, microfabrication, lasers, vacuum, cryogenics

Professional Achievements

- Co-authored grants, worth in excess of $1M (UCB);
- Participated in planning/building UC Berkeley ion trapping group (UCB);
- Coauthored fourteen publications (UCB, IQOQI, ETH, Brown, see http://nikosd.me/publications);
- Developed methods/algorithms/Matlab library for ion-trap electrostatic control (`https://github.com/HaeffnerLab/trap-simulation-tools-matlab`);
- Designed/Conducted/Analyzed data-intensive experiments (data analysis pipeline in Matlab, Python): ion trap (UCB, IQOQI, ETH), neutron scattering (Brown), ultrasonics (Brown);
- Built world's first ion trapping UHV system with in-situ surface analysis (UCB);

Resources

Projects	http://nikosd.me/projects
Github	https://github.com/nikos-daniilidis
Blog	http://nikosd.me/

Awards

2008–2010	Marie Curie Intra European Fellowship for Career Development, *European Commission*
2007	Forrest Award for Excellent Work Related to Experimental Apparatus, *Brown University*
2002	Award for Excellence as a Graduate Teaching Assistant, *Brown University*