

Resume

PERSONAL INFORMATION

First name / Surname: Piotr Migdał
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Profiles: [GitHub](#), [StackExchange](#)

HOW AM I?

A data scientist (data analysis and visualization), with scientific background (PhD in quantum optics theory).

EXPERIENCE

- Freelancing in data analysis and data visualization Jan 2014 – (now)
an example project: [Szkolomat](#) for [projekt:polska](#) — data consultancy, data cleaning and merging, geocoding.
- Data Science Intern at [Startup Compass Inc.](#), San Francisco, CA, USA Jul – Oct 2013
Designing distance function for software companies, based on a multidimensional dataset.
Data processing (Python: SciPy, Pandas; MongoDB), data exploration and visualization (Gephi, D3.js).
- Participated in [BigDive](#), a 4-week long hands-on workshop in data science and big data processing, for 20 participants: Oct 2012
data visualization (Gephi, D3.js), Python and JavaScript optimization, no-SQL databases (MongoDB), Hadoop (Amazon Elastic MapReduce), machine learning, NLP, working on real Twitter data; [my wrap-up presentation](#)

RESEARCH

- **Related expertise:** quantum mechanics, statistical mechanics, graph theory, complex systems, complex networks, information theory, entropy, collective decision-making, mathematical psychology
- **Internships at:** ISI Foundation (Italy), ICFO (Spain), Univ. of Toruń (Poland), MIT (USA)
- **Research papers:** [12 publications](#), [10 available openly on arXiv](#); a [video abstract for Qubism](#)
- **Conferences and workshops:** in complex systems (e.g. [ECCS2012](#), [NetSci2011](#)), quantum optics and information (e.g. [QISM2012](#), [QCMC2012](#))

EDUCATION

- ICFO - The Institute of Photonic Sciences, Castelldefels (Barcelona), Spain
Quantum Optics Theory Group, advisor: prof. Maciej Lewenstein 2011–2014
- **PhD Degree**, *cum laude* Dec 2014
thesis: [Symmetries and self-similarity of many-body wavefunctions](#).
- University of Warsaw, Warsaw, Poland (MISMaP program) 2005–2011
- Master's Degree (5 year program), Theoretical Physics, [thesis](#), grade: 5/5 Jan 2011
 - Bachelor's Degree, Mathematics (Game Theory), [thesis](#), grade: 5/5 Sept 2009

TEACHING GIFTED HIGH-SCHOOL STUDENTS

- Courses on: quantum mechanics and cryptography, simulating social phenomena in Python, measuring fractal dimension from images, Fourier analysis and waves
- Voluntary tutor of the [Polish Children's Fund](#) 2006–
- Mentor of the winners of the [21st European Union Contest for Young Scientists](#) 2009

PROJECTS, ACTIVITIES

- Started an unconference series [Offtopicarium](#) Jan 2012–
- Co-founder of Confrenzy — a website listing scientific events Mar 2011–2012
- The head organizer of a national physics student's conference VII OSKNF 2008
- Founded a student's association [SKFiz UW](#) 2006

AWARDS, SCHOLARSHIPS

- ICFO Innovation Fund grant awarded for Confrenzy Oct 2011
- National Scholarship for exceptional achievements in science 2007–2010
- Research Science Institute (Massachusetts Institute of Technology, MA, USA) 2005
- Scholarship of the Polish Children's Fund 2003–2005
- Bronze Medal in the International Physics Olympiad (Pohang, South Korea) 2004

SKILLS

- Languages: Polish (native), English (fluent)
- Programming languages/technologies: Python, JavaScript, Mathematica, LaTeX, Git