Oleksandr Fialko, *Ph.D*

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I am looking forward to extend my passion in problem solving and scientific expertise into data-centered industrial research. During my academic career I learned how to get the most of the data and make it to tell its story. I truly believe my research skills and experience will be beneficial to any organisation operating data.

Summary of skills

- **Core skills**

  I come from the discipline in which success depends on
  - Strong mathematical background
  - Numerical analysis
  - Creativity
  - Quick grasping the most advanced abstract ideas
  - Thinking about the big picture
  - Keeping an eye on details/order/quality
  - Meeting tight deadlines

- **Strong analytical and problem solving skills:**

  I have written more than 20 papers in reputable physics journals. 4 papers were published in Physical Review Letters, the world's premier physics letter journal.

- **Determination, persistence and goal orientation:**

  I won a Fast-Start Marsden fund, which is one of the most prestigious funding for young researchers in New Zealand, with a success rate of less than 10%.

- **Solid programming skills**:

  Throughout different stages of my career I used extensively
  - Python (Numpy, Matplotlib, Pandas, Scikit-learn)
  - MATLAB
  - Fortran

  I am passionate about learning new programming skills. I have learned outside of work
  - Machine learning models, SQL, R, C
  - Basics of Web Development, cf. http://oleksandrfialko.com

  Working experience in
  - Microsoft Windows, Linux, Mac OS X

Professional Experience

2013 – present, **Researcher at INMS**, Massey University, Auckland.
The Fast-Start Marsden fund gave me the opportunity to pursue my own research.

- Proposed an *isolated* quantum heat engine and did extensive numerical and theoretical research on its functionality. This project brought a *new concept* into the field.
- Invited to present my work at 4 international conferences.
- Awarded the status of Associate Investigator in the Dodd-Walls Centre for Photonic and Quantum Technologies.
- Received Dodd-Walls Centre New Ideas Research fund. Amount NZ $25,000.
- Supervised a Ph.D student. Published 2 joint papers.
- Coordinated and conducted the course “Nonlinear Physics and Chaos”.

2010 - 2013, **Postdoctoral Fellow at CTCP,** Massey University, Auckland.
I was hired to work on a Marsden Funded project at Massey.

- Proposed a scheme to simulate the early stages of the Universe with atoms in a lab. This project is a first in its nature and opens up a new field of research.
- Received AU $5000 travel fund to visit the Swinburne University, Melbourne, Australia. I was a principal investigator of a research project.
- Supervised several internship students.
- Conducted seminars and labs on various aspects of physics to Massey students.

2005 - 2010, **Research Assistant & Ph.D,** University of Augsburg (Germany)
I was invited to pursue a Ph.D in theoretical physics and was hired as a research assistant.

- I was awarded a Ph.D with “great honor”.
- Supervised a Masters student. Published 1 joint paper.
- Taught various undergraduate courses including examination preparation and marking.
- Received €6000 DAAD travel fund to visit the Institute of Physics, USP, Sao Paulo, Brazil for the period of 4 months. I was a principal investigator of a research project.

Education

- **Certificate in “SQL Server Implementation and Support”** (Transact SQL, Administering Microsoft SQL Server, Implementing SQL data warehousing), AMES I.T., New Zealand (March 2016).
- **Doctor of Natural Sciences (with great honor)**, University of Augsburg, Germany (June 2010)
- **Master in Physics (with honor)**, Kiev National University, Ukraine (June 2005)
- **Bachelor in Physics (with honor),** Kiev National University, Ukraine (June 2004).

Certified Courses

- **“Machine learning”** by Stanford University on Coursera (final grade 97.3%)
- **“Programming in R for Data Science”** by Microsoft on EDX (final grade 99%)