

# Tautvydas Misiunas

*Curriculum Vitae*

## Work Experience

Current, from Oct 2014

Software development engineer  
*Amazon*, Edinburgh, United Kingdom

Focused on the backend work of massive scale projects. To ensure service scaling and high performance standards under heavy load, I developed a flexible testing framework. As a result, the services performed as predicted during Black Friday and Cyber Monday. I also prototyped machine learning models for content optimisation on Amazon gateway, dynamical filtering of adult content and language inference based on book snippets. Customer impact of major updates was rigorously evaluated with A/B testing, allowing to iterate over ideas fast and backup analysis with numbers. For example, a new widget that I worked on proved to generate \$11M worldwide.

Nov 2012 – Aug 2013

Software developer  
*Ocado*, London, United Kingdom

Having strong mathematical skills I joined the MHE control team at Ocado, providing reliable real-time Java application responsible for control over sixty interconnected cranes and conveyors and communicating with Oracle database as well as other services. For example, I developed a monitoring optimisation module that detects idle machines and optimises item distribution among them. In order to make the module compliant with tight constraints of a real-time application I improved the routing algorithm of the continuously changing warehouse hundred fold. This level of performance jump was achieved by extracting a super-graph with a graph clustering algorithm (Markov Cluster Algorithm).

Sep 2010 - June 2011

Research assistant  
*Center for Physical Sciences and Technology*, Vilnius, Lithuania

Under the supervision of Prof. E. Törnau, I developed computational model to explain and predict the behaviour of triangular-shaped molecules. We have extended existing phase models, such as Potts, Blume-Emery-Griffits, to support molecule's ability to settle down on the lattice. The model successfully explained two structures which were observed in experiments and predicted a new structure.

Current, from July 2012

Android games  
*Mobile app*

I co-created two Android games that are free to download. Over the years I have been keeping the applications up to date with new releases and support for new Android versions. Both applications are very successful with over 1M total downloads.

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## Education

2014 Master of Science  
Distinction, 3.9 GPA  
Artificial Intelligence  
*The University of Edinburgh*

2008 – 2012 Bachelor degree  
Overall mark - 84%  
Physics  
*Vilnius University*

## Projects

2014 Short term movements in stock prices  
*Kaggle*

## Publications

2012 Ordered assemblies of triangular-shaped molecules with strongly interacting vertices: phase diagrams for honeycomb and zigzag structures on triangular lattice  
*The journal of physical chemistry. B*

## Computer Skills

Basic Knowledge c++, bash

Advanced Knowledge java, python, L<sup>A</sup>T<sub>E</sub>X,  
OpenOffice, Linux,  
Microsoft Windows  
Machine learning

## Communication Skills

Conferences Amazon Machine  
Learning Conference – 2015