



# jonasdegrave

PHD Researcher

## contact

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github.com/317070  
**Blog:** 317070.github.io

## languages

**Dutch**

mother tongue

**English**

near-native (C2)

**French**

professional (C1)

**German, Chinese**

basic (A2)

## programming

I ♥ Python, Java & C

I have **XP** with PHP,

Shell, Javascript, C++,

C#, TeX, ASM,

Redcode, Ruby, Lua,

SQL, Delphi & Basic

## platforms

Linux, Theano,

Lasagne, Apache,

PostgreSQL, Drupal,

Django, CSS3, HTML5,

JQuery, MPLab X

## experience

- 2014–Now **Agency for Innovation by Science and Technology in Flanders** Ghent University, Belgium  
Phd researcher  
Developing stable gaits for quadrupedal robots and researching the extent to which you can use the morphology of the robot in order to compute the desired motor signals.
- 2012–2013 **AMARSi, European Community's FP7** Ghent University, Belgium  
Phd researcher  
Developing, testing and debugging both hardware, firmware and software of the compliant quadrupedal robot, 'Oncilla'.

## education

- 2010–2012 **Masters of Science** in Electrical Engineering Ghent University, Belgium  
With a specialization in information and communication technology and a focus on media and machine learning. I graduated on exploring whether a robot learns to run faster when it starts the learning process with an easier morphology.
- 2011 **Masters of Science** in Informatics Institut Polytechnique de Grenoble, France  
Erasmus experience in order to further specialize in graphics, vision and robotics
- 2007–2010 **Bachelor of Science** in Electrical Engineering Ghent University, Belgium  
Specialization in communication technology

## awards

- 2015 **Kaggle's National Data Science Bowl** Oregon State University, USA  
Awarded \$100,000 for developing the best algorithm to classify images of plankton.
- 2009 **Marianne De Leenheer Prize** Ghent University, Belgium  
Awarded €1,250 to promote creativity in math, for solving the Blacksburg Middle School problem.
- 2007 **First prize Geography Derby of the Low Countries** Texel, Netherlands  
Awarded €250 on the written test in a competition between the best geography students in Flanders and the Netherlands
- 2005–2007 **7 times finalist in science Olympiads Flanders** Brussels, Belgium  
Finished 7 times among the top 15 students for the Olympiads in mathematics, chemistry, physics and geography.

## publications

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I have authored 3 journal articles (of which 2 are under review) and 5 conference papers. I included a selection of my publications underneath. You may find a complete list of my publications on [biblio.ugent.be/person/000070398859](http://biblio.ugent.be/person/000070398859).

### article in peer-reviewed journal

Transfer learning of gaits on a quadrupedal robot

Jonas Degraeve, Michaël Burm, Pieter-Jan Kindermans, Joni Dambre, Francis Wyffels  
Adaptive Behavior. Sage, 2015

### invited talk

Classifying plankton using deep learning, the winning solution to Kaggle's national data science bowl

Jonas Degraeve  
Data Science and Advanced Analytics conference, 2015

### international peer-reviewed conferences & proceedings

Terrain classification for a quadruped robot

Jonas Degraeve, Robin Van Cauwenbergh, Francis Wyffels, Tim Waegeman, Benjamin Schrauwen  
International Conference on Machine Learning and Applications, Proceedings, 2013, Miami, Florida, USA

Comparing trotting and turning strategies on the quadrupedal Oncilla Robot

Jonas Degraeve, Michaël Burm, Tim Waegeman, Francis Wyffels, Benjamin Schrauwen  
IEEE International Conference on Robotics and Biomimetics, Proceedings, 2013, Shenzhen, China

Applying morphological changes during the evolution of quadruped robots results in robust gaits

Jonas Degraeve, Francis Wyffels, Tim Waegeman, Pieter-Jan Kindermans, Benjamin Schrauwen  
Proceedings of the 21st Belgian-Dutch Conference on Machine Learning, 2012, Ghent, Belgium

## achievements

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|-----------|---|--------------------|
| 2015      | <b>Large Scale Deep Neural Net artwork</b><br>Exposition of my work at the new media festival 'Speculum Artium'. The work received critical acclaim from international media such as New Scientist, The Guardian and Der Spiegel. | Trbovlje, Slovenia |
| 2012–2014 | <b>Co-President Pirate Party Belgium</b><br>I was co-president of the Belgian section of the Pirate Party. I led the party from nothing to the 2012 and 2014 elections. When I left the polls gave a voting intention of 1.4%.    | Belgium            |

## interests

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**professional:** robotics, deep learning, reinforcement learning, machine learning, transfer learning, media processing, data mining, software development

**personal:** politics, the science of cooking, board games, producing music, running