

# Alexandros Kastanos

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## EDUCATION

### UNIVERSITY OF CAMBRIDGE

Master of Philosophy in Machine Learning and Machine Intelligence  
Oct 2018 - Sept 2019, Magdalene College  
MPhil class representative  
**Thesis title:** Uncertainty and confidence scores for sequence data (71%)

### UNIVERSITY OF THE WITWATERSRAND

**BSC IN ENGINEERING (ELECTRICAL)**  
Graduated with Distinction  
Jan 2014 - Dec 2017  
**Project title:** Adaptive digital hearing aid that adapts to a changing acoustic environment (90%)

## PROGRAMMING SKILLS

**Advanced:**

Python • PyTorch • Matlab • C++

**Intermediate:**

Tensorflow 2 • Flux.jl • Julia

**Beginner:**

Linux • SQL • Javascript • Assembly

## GRADUATE COURSES

Probabilistic Machine Learning •  
Computer Vision • Speech Recognition •  
Weighted Automata • Deep Learning and  
Structured Data • Computational  
Neuroscience • Advanced Machine  
Learning • Reinforcement Learning and  
Decision Making • Machine Translation •  
Speech and Language Processing  
Applications

## PERSONAL PROJECTS

### Machine Learning Blog

I maintain a blog on my website where I present interesting research, discuss concepts, and demonstrate frameworks:  
<https://alecokas.github.io>

### Health Aim

Proposed a computer vision based mapping tool to predict areas with poor access to public health in Uganda for the 2019 Geneva Challenge.

### Deep Learning Indaba 2019

Volunteered as a practical session tutor where I tested and reviewed source material, and assisted participants during practical sessions.

## EXPERIENCE

### OCADO TECHNOLOGY | MACHINE LEARNING ENGINEER

October 2019 - Present | Hatfield, United Kingdom

- I am responsible for the research and implementation of novel machine learning models. I work closely with a small cross-disciplinary team and own my projects from inception to deployment.
- Regularly take part in cross-department knowledge sharing sessions where I have presented machine learning topics, such as Graph Neural Networks, Natural Language Processing, and Recommender Systems.
- Host regular catch-ups with our internal clients to discuss requirements and manage third party software relationships.
- Built a conversational AI solution and deployed to customers within 8 months.
- Tech stack includes Python, PyTorch, Docker, and GCP.

### PERALEX ELECTRONICS | SOFTWARE DEVELOPMENT ENGINEER

Jan 2018 - August 2018 | Cape Town, South Africa

- Worked in an agile team environment to introduce deep learning approaches to replace existing passive radar detection systems
- Designed and implemented a number of signal detection systems using Keras
- Used Python for dataset synthesis and management

### PERALEX ELECTRONICS | SOFTWARE ENGINEERING INTERN

Nov 2016 - Jan 2017 | Cape Town, South Africa

I contributed to the multirate filtering algorithm in the open source Julia DSP library and developed a tool to enforce coding conventions and assists source code management. Languages used during internship: Julia, C++, and Perl.

## AWARDS

- MIT Press poster award, Deep Learning Indaba (2019)
- University of Cambridge Department of Engineering Scholarship (2018)
- Dean's List (top 10% of my class) throughout undergraduate (2014-2017)
- Top mark in Software Development III (84%) (2017)
- 2<sup>nd</sup> place poster at the electrical engineering department open day (2017)
- **Top student in third year electrical engineering** (2016)
- Top mark in Probabilistic System and Signal Analysis (99%) (2016)
- International Scholar Laureate Program (ISPL) award (2015)
- Awarded Golden Key South Africa Membership (2014)

## CONFERENCES AND PUBLICATIONS

### Papers

- A. Kastanos, A. Ragni, M.J.F. Gales, "Confidence Estimation for Black Box Automatic Speech Recognition Systems Using Lattice Recurrent Neural Networks", in ICASSP, 2020.
- A. Kastanos and T. Martin, "Graph Convolutional Network for Swahili News Classification", in EACL AfricaNLP workshop, 2021.

### Posters

- A. Kastanos, A. Ragni, M.J.F. Gales, "Confidence Scores for Sequence Data, Presented at the Deep Learning Indaba 2019.

## PERSONAL DETAILS

**Location:** London, United Kingdom

**Citizenship:** U.K. and South Africa

**Languages:** English (1st) • Greek (2nd) • Afrikaans (2nd)