Ramona Comanescu

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Education

University of Cambridge

MPhil Machine Learning and Machine Intelligence *(2018 - 2019) —First class, with special commendation from the Engineering Department*

- Average: 75.3%
- Focus on Probabilistic Machine Learning, Deep Learning, Speech and Language Processing
- **Awards**: Cambridge European Scholarship

The University of Edinburgh

BEng Computer Science *(2014 - 2018) — Top of the class*

- Average: 86%
- Focus on Machine Learning and NLP
- **Awards**: **Best** Overall Performance in BEng Computer Science; **Best** Performing Penultimate Year Student in Computer Science

Work experience

Facebook, London

Machine Learning Software Engineer | *October 2019 - Present*

Building the world's best Identification Document based authentication system that uses Natural Language Processing and Computer Vision to verify millions of users across Facebook products. Helped launch automatic Document verification saving thousands of human hours. Implemented various machine learning models and model understanding capabilities.

Amazon, Edinburgh

Software Engineer Intern | *June - August 2018*

- **Assessing correctness of crowdsourced data:** Developed a pipeline for correcting and preventing untrustworthy annotations made by humans, correcting a high impact dataset. Researched probabilistic models of annotation for crowdsourced data, integrated annotator specific features with existing production models.

Amazon, Edinburgh

Software Engineer Intern | *June - August 2017*

- **Ads classifier:** Increased the recall of Amazon ads that can be displayed on third party websites by 15pp by implementing large-scale machine learning classifiers for ads safety. Researched embeddings for textual features and deep learning network structures using the deep learning framework MXNet with Python. Handled large amounts of data using Apache Spark and Java.

Publications

J. Williams, R. Comanescu et al. **DNN Multimodal Fusion Techniques for Predicting Video Sentiment**. In Proceedings of Grand Challenge and Workshop on Human Multimodal Language, **ACL 2018**

J. Williams, S. Kleinegesse, R. Comanescu et al. **Recognizing Emotions in Video Using Multimodal DNN Feature Fusion**. In Proceedings of Grand Challenge and Workshop on Human Multimodal Language, **ACL 2018**; **Winner** of the Emotion Recognition Track

Research Projects

Sum-Product Copulas

Master Thesis | *University of Cambridge*

Implemented and derived flexible copula distribution parametrisations using a family of tractable probabilistic graphical models known as deep sum-product networks. This was applied to the task of density estimation to better explain highly correlated variables. This new model allows copulas to be used for very high dimensional data. Supervised by Robert Peharz and José Miguel Hernández-Lobato. Link.

NLP and Data Science methods to understand gender imbalance in a scientific community

Undergraduate Thesis | *University of Edinburgh*

Used topic modeling to explore the different dynamics of research topics in computational linguistics. Developed gender classification methods for names. Implemented a data science pipeline for corpus analysis based on gender variables. Supervised by Adam Lopez. Presented as an academic poster at the **Grace Hopper Conference 2019**. Link.

Others

Machine Learning Summer School

London | *2019*

Two week course covering Bayesian inference, reinforcement learning and Gaussian processes.

Software skills

Good level	Python; Pytorch; NumPy; Java
Intermediate	TensorFlow, Keras, MXNet, Scala, C++, Apache Spark, Hadoop, Android, Flask, Git, Unix, LaTeX