# Lazar Valkov

*Curriculum Vitae*

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## Education

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| 2016–2021 | **PhD**, *ANC: Machine Learning*, University of Edinburgh, UK<br>Thesis: "Modular Lifelong Machine Learning" under Charles Sutton |
| 2015-2016 | **MSc**, *Computer Science*, University of Oxford, UK<br>Thesis: "Paper Recommendation for Scientific Conferences" under Yee Whye Teh |
| 2011-2015 | **BSc**, *Computer Science w Ind Placement*, Newcastle University, UK, 82.5 (First)<br>Thesis: "Automated Organ Segmentation in Images of Pig Red Offal" under Thomas Ploetz |

## Experience

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| Sep 2021 – Present | **Postdoctoral Researcher**, *MIT-IBM*, Cambridge, MA<br>Conducting research with a focus on Continual Learning. |
| Jun – Oct (2019) | **Research Intern**, *Facebook AI*, London<br>Researched the use of generative objectives for unbiased classification of textual entailment.<br>Advisors: Vassilis Plachouras, Guillaume Bouchard, Sebastian Riedel |
| Jun – Oct (2018) | **Applied Science Intern**, *Core ML, Amazon*, Berlin<br>Developed a new method for Bayesian hyperparameter optimisation using sampling based on transfer learning, which achieved state-of-the-art results.<br>Supervisor:Rodolphe Jenatton |
| Jan 2017 – May 2020 | **Tutor**, *School of Informatics*, University of Edinburgh<br>○ Probabilistic Modelling and Reasoning (MSc)<br>○ Machine Learning Practical (MSc) |
| Jul 2017 | **AI Summer School**, *Microsoft Research*, Cambridge |
| Jul 2015 – Aug 2015 | **Research Intern**, *Geek Talent*, Sunderland<br>Developed an ontology-based approach to matching online profiles across social networks. |
| Jul 2013 – Jul 2014 | **Software Development Intern**, *Waterstons*, Durham<br>Collaborated with an international team on a European file hosting service. |

## Grants

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| PI | **MIT-IBM: Towards a Complete Lifelong Learning Algorithm**, *1 Year*<br>In collaboration with Navid Azizan (MIT) |
| Co-PI | **NSA: Towards neural-symbolic AI systems for improving security of information technology systems**, *1 Year*<br>In collaboration with Masataro Asai (IBM), Subhro Das (IBM), Erik Hemberg (MIT), Una-May O'Reilly (MIT) |

## Scholarships and Awards

2018   NeurIPS 2018 Travel Award

2016   EPSRC - PhD Scholarship

2014   Major Hacking League - Hackathon medal for "Most Impressive Solution"

2013   Newcastle University - Highest Year 2 marks in Computing Science

2012   Netcraft - Award for top 5 high-performing Year 1 Computing Science students

2011-2015   Newcastle University - Excellence Scholarship

## Publications

**Lazar Valkov**, Akash Srivastava Charles Sutton, and Swarat Chaudhuri. *A Probabilistic Framework for Modular Continual Learning.* ICLR 2024

James Seale Smith, **Lazar Valkov**, Shaunak Halbe, Vyshnavi Gutta, Rogerio Feris, Zsolt Kira, Leonid Karlinsky. *Adaptive Memory Replay for Continual Learning.* Workshop on Efficient Large Vision Models, CVPR 2024 (**Spotlight**)

**Lazar Valkov**, Dipak Chaudhari, Akash Srivastava Charles Sutton, and Swarat Chaudhuri. *Synthesis of Differentiable Functional Programs for Lifelong Learning.* NeurIPS 2018

**Lazar Valkov**, Rodolphe Jenatton, Fela Winkelmolen, Cédric Archambeau. *A simple transfer-learning extension of Hyperband.* Workshop on Meta-Learning, NeurIPS 2018

Akash Srivastava, **Lazar Valkov**, Chris Russell, Michael U. Gutmann and Charles Sutton. *VEEGAN: Reducing Mode Collapse in GANs using Implicit Variational Learning.* NeurIPS 2017.

**Lazar Valkov**. *Modular lifelong machine learning.* PhD Thesis, 2023, under Charles Sutton

**Lazar Valkov**. *Paper Recommendation for Scientific Conferences.* Masters Thesis, 2016, under Yee Whye Teh

**Lazar Valkov**. *Automated Organ Segmentation in Images of Pig Red Offal.* Bachelor Thesis, 2015, under Thomas Ploetz

## Academic Service

Reviewer for ICLR, ICML and NeurIPS (top 50% highest-scoring reviewer in 2019)