Michael E Akintunde

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Education

Imperial College London, South Kensington, London, UK — 2017 – Present
PhD, Computer Science – Verification of Autonomous Neural Systems.
Supervised by Prof. Alessio Lomuscio.

Imperial College London, South Kensington, London, UK — 2013 – 2017
MEng Joint Mathematics and Computing – Upper Second Class Honours
MEng project supervised by Prof. Alessio Lomuscio.

Chislehurst & Sidcup Grammar School, Sidcup, Kent, UK — 2011 – 2013
A-Levels in Mathematics (A*), Further Mathematics (A*) and Computing (A)

Publications

M. E. Akintunde, E. Botoeva, P. Kouvaros, A. Lomuscio. *Verifying Strategic Abilities of Neural Multi-agent Systems*. Proceedings of the 17th International Conference on Principles of Knowledge Representation and Reasoning (KR'20). pp 22 – 32. Rhodes, Greece. AAAI Press. (2020)

M. E. Akintunde, E. Botoeva, P. Kouvaros, A. Lomuscio. *Formal Verification of Neural Agents in Non-deterministic Environments*. Proceedings of the 19th International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS'20). pp 25 – 33. Auckland, New Zealand. IFAAMAS Press. (2020)

M. E. Akintunde, A. Kevorchian, A. Lomuscio, E. Pirovano. *Verification of RNN-Based Neural Agent-Environment Systems*. Proceedings of the 33rd AAAI Conference on Artificial Intelligence (AAAI'19). pp 6006 – 6013. Honolulu, Hawaii, USA. AAAI Press. (2019)

M. E. Akintunde, A. Lomuscio, L. Maganti, E. Pirovano. *Reachability Analysis for Neural Agent-Environment Systems*. Proceedings of the 16th International Conference on Principles of Knowledge Representation and Reasoning (KR'18). pp 184 – 193. Tempe, Arizona, USA. AAAI Press. (2018)

M. E. Akintunde, A. Lomuscio. *Planning for CTL*-Extended Goals via Model Checking* (MEng thesis, 2017)

Talks

Formal Verification of Neural Agents in Non-deterministic Environments. 3rd Workshop on Formal Methods for ML-Enabled Autonomous Systems (FoMLAS'20). Remote. July 2020.

Formal Verification of Neural Agents in Non-deterministic Environments. 19th International Conference on Autonomous Agents and Multi-Agent Systems (AAMAS'20). Remote. May 2020.

Verification of RNN-Based Neural Agent-Environment Systems. ForMaL: DigiCosme Spring School on Formal Methods and Machine Learning. École Normale Supérieure Paris-Saclay, Cachan, France. June 2019.

Verification of RNN-Based Neural Agent-Environment Systems. AAAI Spring Symposium on Verification of Neural Networks (VNN'19). Stanford University, California, USA. March 2019.

Teaching

Teaching assistant in the Department of Computing, Imperial College London, for the following courses:

- 303 Systems Verification — Spring Term, 2020
- 120.1 Programming I (Haskell) — Autumn Term, 2019
- 498H Logics for Strategic Reasoning in AI — Spring Term, 2019
- 120.1 Programming I (Haskell) — Autumn Term, 2018
- 303 Systems Verification — Spring Term, 2018
- 120.1 Programming I (Haskell) — Autumn Term, 2017

Professional Experience

Skyscanner, London, UK – *Software Engineer Intern* — June – September 2016

- Implemented new ranking algorithm for experimental "Trending Destinations" feature of mobile app.
- Integrated new dataset into existing data processing pipeline.
- Maintained SDK for internal logging platform.

Tsinghua University, Beijing, China – *Undergraduate Research Assistant* June – August 2015

- Used Gaussian process regression with local weather data to predict the PM 2.5 metric as a measure of Beijing's future pollution levels.
- Mathematics tuition for a high-achieving high school student.

Google, Kraków, Poland – *Software Engineer Intern (STEP)* June – September 2014

- Created backend components for UX-enhancing extensions to Incentives, a coupon-management system for Google AdWords.

Service

- Volunteer, 16th International Conference on Principles of Knowledge Representation and Reasoning (KR'18), Tempe, Arizona, USA. 30th October 2018.
- Volunteer, 7th Federated Logic Conference (FLoC'18), Oxford, UK. 13th July 2018.
- Volunteer, Deep Learning Summit, London, UK. September 21st - 22nd, 2017.

Awards and Prizes

- Full PhD Scholarship, EPSRC Centre for Doctoral Training in High Performance Embedded and Distributed Systems 2017 – 2021
- IBM Second Year Group Project Prize, Imperial College London 2015
- Diamond Jubilee Scholarship, Institute of Engineering and Technology 2013
- Young Enterprise's Best Overall Company in South East London 2012
- London Borough of Bexley's Student Achievement Award 2012

Technical Skills

Programming Languages:

- Python (Competent), Java (Familiar), C++ (Familiar)

Other Commitments

- Organiser of weekly seminars in research group.
- Former committee member of The Imperial College Algorithmic Trading Society (ICATS).
- Responsible for running a Gentoo Linux-based P.A. system at a neighbouring church, managing audio recordings of sermons and visual projections of notices and hymns.
- Former member of the Imperial College Snowsports Club.

References

Available upon request.