Kyle Simpson

Résumé

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Kyle Simpson is a PhD student in the Networked Systems Research Laboratory at the School of Computing Science, University of Glasgow. His research focusses on the use of reinforcement learning and other data-driven techniques in cybersecurity and network management, with a core interest in how they can be empowered by programmable dataplane technology. He has previously acted as an affiliate and research intern at the Lawrence Berkeley National Laboratory.

University Education

since 2017 **PhD Degree in Computing Science**, *University of Glasgow*, Scotland
Supervisor: Prof. Dimitrios P. Pezaros

Thesis (ongoing): *Programmable, Data-driven Networks for the Masses*

2012–2017 **MSci Degree in Computing Science**, *University of Glasgow*, Scotland

Skills

- **Tech**: Embedded SmartNIC programming, eBPF, XDP, and DPDK.
- **Languages**: Rust, C, Javascript, Java, Go, C++, SQL, and Python.

Awards and Scholarships

2022 **NOMS 2022 Student Travel Grant**, *$500*

2020 **CoNEXT 2020 Registration Grant**, *$80*

2017 **EPSRC PhD Scholarship**, *approx. £63,500*
Engineering and Physical Sciences Research Council (EPSRC) funded PhD (3.5 years) at the University of Glasgow.

2015–2017 **Class Prizes**, *£100 ea*
Awarded to the student with the highest GPA in **Level 3** (18.8/22.0), **Hons** (20.7/22.0), and **MSci** (20.3/22.0)

Publications

2022 [1] **Kyle A. Simpson** and Dimitrios P. Pezaros. "Revisiting the Classics: Online RL in the Programmable Dataplane". In: *NOMS 2022 - IEEE/IFIP Network Operations and Management Symposium, Budapest, Hungary*. CORE 2021 Ranking: B. IEEE, Apr. 2022.

2021 [2] **Kyle A. Simpson** and Dimitrios P. Pezaros. "Poster: Online RL in the pro-

grammable dataplane with OPaL". In: *CoNEXT '21: The 17th International Conference on emerging Networking EXperiments and Technologies, Virtual Event, Munich, Germany, December 7–10, 2021*. CORE 2021 **Ranking: A**. ACM, 2021, pp. 471–472.

2020 [3] **Kyle A. Simpson**, Richard Cziva, and Dimitrios P. Pezaros. "Seiðr: Dataplane Assisted Flow Classification Using ML". In: *IEEE Global Communications Conference, GLOBECOM 2020, Virtual Event, Taiwan, December 7–11, 2020*. CORE 2020 Ranking: B. IEEE, 2020, pp. 1–6.

[4] **Kyle A. Simpson**, Simon Rogers, and Dimitrios P. Pezaros. "Per-Host DDoS Mitigation by Direct-Control Reinforcement Learning". In: *IEEE Trans. Netw. Serv. Manag.* 17.1 (2020). SJR **Ranking: Q1**, pp. 103–117.

2017 [5] Ciaran McCreesh, Patrick Prosser, **Kyle Simpson**, and James Trimble. "On Maximum Weight Clique Algorithms, and How They Are Evaluated". In: *Principles and Practice of Constraint Programming - 23rd International Conference, CP 2017, Melbourne, VIC, Australia, August 28 - September 1, 2017, Proceedings*. CORE 2017 **Ranking: A**. 2017, pp. 206–225.