

Shae McFadden

PhD Candidate



About me


An independent, reliable, organized and well-rounded individual with a passion for intellectual pursuits such as exploring the cross-section between artificial intelligence and cybersecurity.


Conducted research on machine learning for malware classification in an undergraduate dissertation that won the Alan Fairbourn Memorial Prize and the Layton Research Award.

Currently a Ph.D. student at King's College London under the supervision of Dr. Fabio Pierazzi. The Ph.D. focuses on the application of deep reinforcement learning to cyber security with a particular focus on black-box security testing.









Areas of specialization

Deep Reinforcement Learning
• Security Testing • Malware Classification • Autonomous Network Defense • Machine Learning • Cyber Security

 [McFadden-S](#)

 [Shae McFadden](#)

EXPERIENCE

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|--------------|---|---|
| 2023–Present | PhD Candidate
DEPARTMENT OF INFORMATICS · King's College London 
Thesis on "Security Analysis of Deep Reinforcement Learning for Systems and Networks Security" supervised by Dr. Fabio Pierazzi. |  |
| 2023–Present | Visiting Scholar
S2LAB · University College London 
Visiting Prof. Lorenzo Cavallaro. |  |
| 2023–Present | Visiting Collaborator
AICD · The Alan Turing Institute 
Collaborating with the Artificial Intelligence for Cyber Defence research centre. |  |
| 2022 | King's Undergraduate Research Fellow
DEPARTMENT OF INFORMATICS · King's College London 
Evaluation of the impact of poisoning on machine learning classifiers for malware detection. |  |

DEGREES

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| 2023 | Computer Science (Artificial Intelligence)
BSc (HONS) · King's College London 
First Class with a specialization in Artificial Intelligence.
Dissertation on "Adversarial Machine Learning Evaluation of The MaMaDroid Feature Space". |  |
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PUBLICATIONS

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| 2024 | Wendigo: Deep Reinforcement Learning for Denial-of-Service Query Discovery in GraphQL.
In proceedings of <i>IEEE SPW</i> . |
| 2023 | Poster: RPAL-Recovering Malware Classifiers from Data Poisoning using Active Learning.
In proceedings of <i>ACM CCS</i> . |

AWARDS

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| 2023 | Layton Research Award |
| 2023 | Alan Fairbourn Memorial Prize |
| 2023 | Associateship of King's College |
| 2022 | King's Experience Research Award |
| 2020 | Governor General Academic Medal |

TALKS

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| 2023 | "Adversarial Machine Learning Evaluation of The MaMaDroid Feature Space",
<i>WorldCUR'BCUR</i> . |
| 2024 | "Deep Reinforcement Learning for Denial-of-Service Query Discovery in GraphQL",
<i>MLCSS</i> . |

EXTRACURRICULAR

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| 2022–2024 | Captain of the Men's First Fencing Team, King's College London |
| 2017–2020 | Canadian National Fencing Team |
| 2020 | Fencing Grand Prix Montreal |
| 2019 | U18 Fencing World Championships |
| 2019 | U18 Fencing Pan American Championships |
| 2018 | Commonwealth Fencing Championships |

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