Statement of Authorship for joint/multi-authored papers for PGR thesis

To appear at the end of each thesis chapter submitted as an article/paper

The statement shall describe the candidate's and co-authors' independent research contributions in the thesis publications. For each publication there should exist a complete statement that is to be filled out and signed by the candidate and supervisor (only required where there isn't already a statement of contribution within the paper itself).

| Title of Paper | Marginal Density Ratio for Off-Policy Evaluation in Contextual Bandits | | |
|---------------------|--|--|--|
| Publication Status | x Published □ Accepted for Publication □Submitted for Publication □Unpublished and unsubmitted work written in a manuscript style | | |
| Publication Details | Muhammad Faaiz Taufiq , Arnaud Doucet, Rob Cornish, and Jean-Francois Ton. Marginal density ratio for off-policy evaluation in contextual bandits. In <i>Thirty-seventh Conference on Neural Information Processing Systems</i> , 2023. | | |

Student Confirmation

| Student Name: | Muhammad Faaiz Taufiq | | |
|---------------------------|--|------|------------|
| Contribution to the Paper | The idea of using marginalization for OPE arose during discussions with Arnaud Doucet during our previous project on Conformal Off-Policy Prediction. I derived all of the theoretical results presented in the paper. I also implemented and ran all of the experiments to validate the theoretical results. I took the lead in writing however Jean-Francois Ton also contributed to writing the introduction and provided constant feedback on the write-up. During frequent meetings, my collaborators helped out with helpful suggestions on methodology and feedback. Arnaud Doucet and Rob Cornish provided valuable suggestions for the write-up and checked the results presented in the paper. | | |
| Signature | | Date | 15/07/2024 |

Supervisor Confirmation

By signing the Statement of Authorship, you are certifying that the candidate made a substantial contribution to the publication, and that the description described above is accurate.

| Supervisor name and title: Dr Rob Cornish | | | | |
|---|------|------------|--|--|
| Supervisor comments | | | | |
| I confirm the above is accurate. | | | | |
| Signature Robert Carrich | Date | 15/07/2024 | | |

This completed form should be included in the thesis, at the end of the relevant chapter.