**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).**

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| --- | --- |
| 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| Publication Status | **x** Published □ Accepted for Publication  □Submitted for Publication □Unpublished and unsubmitted work written  in a manuscript style |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 *Thirty-seventh Conference on Neural Information Processing Systems, 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 | Date | 15/07/2024 |

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