

# Adrià Garriga-Alonso

adria.garriga@gmail.com, +44 7933 774888, github.com/rhaps0dy, linkedin.com/in/adrigarriga, web: agarri.ga

## EDUCATION

**PhD with Prof. Carl E. Rasmussen.** Machine Learning Group, University of Cambridge 2017 – 2021  
Specifying and reasoning with Bayesian priors over functions.

**MSc Computer Science.** University of Oxford. Grade: Distinction. 2016 – 2017  
Thesis: “Probability density imputation of missing data with Gaussian Mixture Models”. Using density estimation methods that do not require fully specified points to perform imputation.  
Supervisor: Prof. Mihaela van der Schaar.

**BSc Computer Science.** Universitat Pompeu Fabra (UPF), Barcelona, Spain 2012 – 2016  
Grade average: 9.02/10. 1<sup>st</sup> of my class of 67, class grade average 6.90/10.

– **Thesis:** “Solving Montezuma’s Revenge (MR) with Planning and Reinforcement Learning (RL)”.  
Supervisor: Anders Jonsson. The objective was to understand how to address the problem of sparse rewards. Using reward shaping, I trained RL agents to play MR. Using search, pruning with domain-specific heuristics, I designed an agent that obtains 14900 score, compared with 3500 of general-purpose agents at the time.

**Erasmus exchange semester.** Karlstad University, Karlstad, Sweden January – July 2016  
– With Prof. Johan Garcia, I improved by 47% the performance of part of a forensic hard drive scanner.

## PUBLICATIONS

Adrià Garriga-Alonso, Carl Edward Rasmussen, and Laurence Aitchison. “Deep convolutional networks as shallow Gaussian processes”. *International Conference on Learning Representations*, 2019

Adrià Garriga-Alonso and Carl Edward Rasmussen. “Joint amortised variational inference in Gaussian processes with input noise”. *In preparation*.

David R. Burt, Sebastian W. Ober, Adrià Garriga-Alonso, and Mark van der Wilk. “Understanding Variational Inference in Function-Space”. *arXiv preprint: 2011.09421*.

Adrià Garriga-Alonso and Mark van der Wilk. “Correlated Weights in Infinite Limits of Deep Convolutional Neural Networks” *In review, for 3rd Symposium on Advances in Approximate Bayesian Inference*.

Vincent Fortuin, Adrià Garriga-Alonso, Florian Wenzel, Gunnar Ratsch, Richard E. Turner, Mark van der Wilk, and Laurence Aitchison. “Bayesian Neural Network Priors Revisited” *ICBINB workshop, in NeurIPS 2020*.

Adrià Garriga-Alonso and Vincent Fortuin “Exact Langevin Dynamics with Stochastic Gradients” *In review, for 3rd Symposium on Advances in Approximate Bayesian Inference*.

## EXPERIENCE

**Microsoft Research Cambridge.** Research Intern July 2019 – November 2019  
Working with Sebastian Tschiatschek. When using Inverse RL, sometimes only partial observations of the teacher’s state are available. Developed theoretically motivated algorithm to optimally choose observations and learn from them, towards Cooperative Inverse RL.

**University of Cambridge.** Undergraduate tutoring and labs in [\[Statistical\] Inference](#) (2017-2018), [Statistical Signal Processing](#) and [Probabilistic Machine Learning](#) (2018-2019).

**Research Assistant.** Music Technology Group, UPF Summer 2015  
Under the supervision of Prof. Rafael Ramírez, developed a web application to help music students practice. It listens to the student’s playing or singing and compares it to an expert’s, while showing visual representation.

**CTO, cofounder.** MonkingMe.com July 2014 – June 2015  
Designed and implemented web application backend and cloud server infrastructure for a music streaming service. Significantly contributed to web interface. Coordinated development of smartphone application.

**R&D Intern.** Big Arm Applications November 2013 – June 2014  
Developed communication protocol between an x86 computer and a Stäubli robot arm. Programmed arm to interact with users via a web portal and a mobile application, using a webcam, and to play a metallophone.

## AWARDS

**EPSRC Doctoral studentship:** “Data-efficient Reinforcement Learning”. Ref. 1950008. October 2017

**Malmö Collaborative AI Challenge** by MSR. 1st & 3rd places, different categories. June 2017

Paid attendance to the Microsoft Research (MSR) AI Summer School. Up to \$20,000 in Azure credits.

**La Caixa Fellowship** for postgraduate studies in Europe. 6.6% acceptance rate. 2016 – 2017

Full tuition and living costs. Awarded Spain-wide, on academic merit and positive impact of personal project.

**María de Maeztu Award for Reproducibility** in Software. September 2016

Best Bachelor’s thesis in information technologies in Spain meeting scientific reproducibility criteria.

## SERVICE

ICLR 2019: **co-organiser** of workshop “[Safe Machine Learning: Specification, Robustness, and Assurance](#)”.

NeurIPS 2019: Reviewer (scored top 400). Mentor & reviewer, [New in ML workshop](#). Reviewer, reproducibility challenge. NeurIPS 2020: reviewer.

ICLR 2020, 2021: Reviewer. ICML 2020: Reviewer.

## ADDITIONAL ACTIVITIES

Leading and planning the [Engineering AI Safety reading group](#) with the Effective Altruism Cambridge society (since 2017, the beginning of my PhD).

Competitive programming team member. Conducted unofficial training sessions. Our team set record in Universitat Pompeu Fabra for number of problems solved, placing 24/52 in SWERC 2015. Also participated in SWERC 2014.

Hackathon: Team won awards **Best In Show** at WIPJam in Mobile World Congress, 2014. We developed a mobile game about catching other players in real life.

**Programming languages:** Expert knowledge: Python. Very good knowledge: C, C++, Javascript.

**Languages:** Fluent Catalan, Spanish, and English; basic Swedish.