Duncan Andrew Clark

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Experience

Facebook Inc. - Infrastructure Research Data Science Intern   06/2020 – 09/2020, 06/2021 – 09/2021
- **Project 1:** Client side app performance metric prediction
- Demonstrated results to software engineers, preliminary false positive reduction of ~90%
- Built, tested and iterated on predictive models using complex, noisy beta testing data
- Adapted quickly to Facebook scale ~billion line data, learned internal tools, machine learning workflows
- Communicated complex statistical models to software engineers, generated discussion and feedback
- **Project 2:** Currently working on prediction methods for privacy data.

University of California Los Angeles – Graduate Student Researcher   01/2021 – 06/2021, 09/2021 – 12/2021
- Worked on NSF Award Number 1953135 : LEAP HI: Understanding and Engineering the Ecosystem of Firearms: Prevalence, Safety, and Firearm-Related Harms
- Introduced novel network method to generate valid statistical inferences on state firearm law adoption
- Communicated results clearly to group with very diverse academic backgrounds

University of California Los Angeles - Teaching Fellow   09/2018 – 12/2020
- Teaching college statistics labs, developed original material resulting in enhanced student understanding
- Advised students on academic and personal issues and directions, building relationships and trust

University of California Los Angeles - Grader   09/2017 – 06/2018

Xafinity Consulting, UK - Actuarial Associate,   09/2015 – 09/2017
- Passed IFOA CT1-8 all on first attempt (average pass rate ~ 40%)
- CT8 Financial Mathematics: CAPM, Black Scholes, Ito calculus, interest rate and credit risk modeling
- Modeled pension scheme liabilities precisely, working with complex messy data.
- Selected, for specialist pension insurance modelling team, providing model results for buy in/out deals
- Managed individual workload between general actuarial team and specialist modelling team

Education

PhD Statistics, University of California, Los Angeles (UCLA)   2017 – 2022 (Expected)
- **Research area**: Stochastic modelling of social networks. Extending current statistical models to improve understanding of social structure. Bootstrap methods, Bayesian inference and model selection for networks. Causal inference in networks. Developing modelling software in R and C++
- **LOLOG Catalog Project**: Verified power of cutting-edge social network model. Requested network data from more than 20 authors, understood context, processed data, fit complex stochastic models, suggested improvements to parameter estimation. To be submitted for publication
- **Bayesian LOLOG Project :** Developed MCMC algorithm with model specific second order information, to provide full Bayesian inference for an intractable model. To be submitted for publication
- **Stochastic Network Causal Inference :** Independently utilized current research, and developed a general Bayesian framework for causal inference in networks where the network is uncertain
- **Coursework**: Machine Learning, Statistical Programming, Theoretical Statistics, Causal Inference, Latent Variable Modelling, Regression and Classification Algorithms, Point Process Models, Neural Networks

MSci Mathematics, University College London (UCL), UK   2011 – 2015
- Classification: 1st Class Honors (US equivalent - 4.0 GPA).
- Master's thesis – Differential geometry on minimal surfaces. Independent research and learning.

Exchange Program, University of Washington, Seattle   2013 - 2014

Skills

Coding: R, Python, SQL, C++ (Basic), Unix (Basic)

Hobbies and Interests

Economics, Always reading around, interested in different viewpoints and evidence based policy solutions
Cycling, Category 1 license, 1st overall in Western Conference 2019. Regular ride organizer
Cooking, Enthusiastic chef and inquisitive patisserie, always trying new cuisines, techniques, and ideas
Unicycling, Keen unicyclist and 2016 UK unicycle road race champion, awarded GCN "Wattage Bazooka"
Cricket, Test Match Special super fan and all-round cricket statistics geek