



UNIVERSITÀ DEGLI STUDI DI
TORINO

Scuola di Scienze della Natura

M.SC. IN STOCHASTICS AND DATA SCIENCE

**Verbale della Commissione Prova Finale
Seduta telematica del 13 Giugno 2022**

Il giorno 13 Giugno 2022 la Commissione Prova Finale, composta da

Elvira Di Nardo, Silvia Montagna e Rossano Schifanella

si è riunita telematicamente. La seduta ha inizio a partire dalle ore 13.00 con il seguente ordine del giorno:

1) Proposta controrelatori per la sessione di Laurea Magistrale di Luglio 2022.

La commissione propone i seguenti controrelatori:

1) Candidate: 854026

Thesis: A typicality based interpretation of neural networks: an experiment on facial emotion recognition

SSD: INF/01

Keywords: data analysis, neural networks, multi-preferential logic

Supervisor: Roberto Esposito (SSD INF/01), co-supervisors Laura Giordano (SSD INF/01) and Daniele Theseider Dupré (SSD INF/01)

Referee: **Rosa Meo** (Ruggero Pensa, Rossano Schifanella)

2) Candidate: 919782

Thesis: A probabilistic generative model for Bayesian inference of demographic attributes from Reddit

SSD: MAT/06

Keywords: probabilistic graphical models, Bayesian modeling, Bayesian inference, social media

Supervisor: Rossano Schifanella

Referee: **Marco Beccuti** (Silvia Montagna, Matteo Ruggiero)

3) Candidate: 854411

Thesis: Marginal distributions for conditional coupled Wright-Fisher diffusions

SSD: MAT/06

Keywords: Application of duality to filtering

Supervisor: Matteo Ruggiero

Referee: **Federico Polito** (Elvira Di Nardo, Cristina Zucca)

4) Candidate: 856592

Thesis: Infinitely wide limits for deep Stable neural networks: sub-linear, linear and super-linear activation functions

SSD: SECS-S/01

Keywords: Infinitely wide neural networks

Supervisor: Stefano Favaro
Referee: **Cristina Zucca** (Federico Polito, Laura Sacerdote)

5) Candidate: 913045
Thesis: The Gelman-Rubin convergence diagnostic for Markov chain Monte Carlo methods
SSD: MAT/06
Keywords: Markov chain monte carlo and simulation-based inference
Supervisor: Matteo Ruggiero
Referee: **Pierpaolo De Blasi** (Silvia Montagna, Amir khorrami Chokami)

6) Candidate: 952430
Thesis: Non Parametric Bayesian Mixture Models: the Ordered Allocation Sampler
SSD: SECS-S/01
Keywords: Non Parametric Bayesian Mixture models
Supervisor: Pierpaolo De Blasi
Referee: **Maria Fernanda Gil Leyva** (Silvia Montagna, Amir Khorrami Chokami)

7) Candidate: 858542
Thesis: On the Lazy Training phenomenon in wide Neural Networks
SSD: SECS-S/01
Keywords: Wide neural networks, lazy training, neural tangent kernel
Supervisor: Stefano Favaro
Referee: **Matteo Ruggiero** (Pierpaolo De Blasi, Silvia Montagna)

8) Candidate: 950741
Thesis: Bayesian community detection in Stochastic Block Models: a comparison of marginal samplers
SSD: INF/01
Keywords: Mixture of finite mixtures to Stochastic Block Models (SBM), Collapsing the SBM, implementation, comparison of algorithm
Supervisor Pierpaolo De Blasi
Referee: **Amir Khorrami Chokami**, (Rossano Schifanella, Stefano Favaro)

9) Candidate: 861414
Thesis: 'Circular Health for Industry': Object Detection and Tracking for animals social interactions
SSD: SECS-S/01
Keywords: Deep Learning, Object Detection, Tracking problem
Supervisor: Pierpaolo De Blasi
Referee: **Silvia Montagna** (Roberto Esposito, Rosa Meo)

10) Candidate: 864592
Thesis: Hierarchical Dirichlet process mixture models for local and global clustering in longitudinal studies
SSD: SECS-S/01
Keywords: Hierarchical Bayesian nonparametric models, Model-based clustering, Markov chain Monte Carlo, Longitudinal data analysis
Supervisor: Silvia Montagna
Referee: **Stefano Favaro** (Amir Khorrami Chokami, Matteo Ruggiero)

11) Candidate: 853788

Thesis: Laser cutting systems: reliability theory and machine learning techniques to improve product quality

SSD: INF/01

Keywords: laser cutting machines, data analysis, reliability theory, machine learning, convolutional neural networks.

Supervisor: Rosa Meo (Cristina Zucca co-supervisor)

Referee: **Roberto Esposito** (Giancarlo Ruffo, Rossano Schifanella)

La seduta è tolta alle ore 13.30.

La Commissione Prova Finale