IOANA MARINESCU

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EDUCATION

Princeton University, Princeton, New Jersey   September 2020 - May 2024
Concentration: B.S.E. Computer Science
Certificates: Statistics and Machine Learning, Applied and Computational Mathematics

Coursework: Algorithms and Data Structures, Honors Multivariable Calculus and Linear Algebra, Computer Vision, Natural Language Processing, Combinatorics, Game Theory, Probability and Stochastic Systems, Statistics, Probabilistic Models of Cognition, Theory of Algorithms, Optimization for Machine Learning, Deep Learning and Physical Systems, Extremal Combinatorics

Awards First Place at Treehacks Stanford Hackathon (2023), Neo Scholar (2022), Bronze Medals at the Romanian Computer Science Olympiad (2017, 2018), First Place at ACSL (2019), USACO Gold Division (2019, 2020)

RESEARCH

Computational Cognitive Science Lab Princeton   September 2022-present
· Transferring inductive biases from probabilistic models to deep neural networks using meta-learning
· Implementing a probabilistic model that can serve as a generative model and sampling data from this distribution
· Formulating Reinforcement Learning and classification tasks to be learned using MAML

Autonomous Empirical Research Group   September 2021-present
· Extended Differential Architecture Search (DARTS) to learn the underlying computation graph of linear and non-linear functions and find an interpretable mapping from input to output data using PyTorch
· Developing a theorist agent combining DARTS and Bayesian Symbolic Regression to recover quantitative models of human cognition from experiments using Pyro

Natural Language Processing Research   June 2021 - September 2022
· Started a novel project on advancing the automatic interpretation of noun compounds in Romanian under the guidance of Prof. Fellbaum and was awarded funding by the university
· Implemented an interface in JavaScript for the task of labelling each noun compound with an appropriate semantic relation on Amazon Mechanical Turk and performed data analysis on the annotations received
· Designed a neural net that takes as input BERT word embeddings for the compounds to classify the semantic relations

WORK EXPERIENCE

Meta   May 2022 - August 2022
Software Engineering Intern - Meta University Android track   *Seattle, WA*
· Developed a social media Android app in Java for startups to post information and discover others
· Implemented an algorithm to filter companies according to name, category, location, available roles, and keywords with autocomplete suggestions using Google Natural Language API

Virtu Financial   January 2022
Women's Winternship   *New York, NY*
· Attended lectures and completed coding exercises on trading, risk, data visualization, regression, and simulation
· Worked on a team project where we developed a trading strategy for oil stocks using Linear Regression and heuristics based on analysis we performed on a dataset and presented the algorithm to our mentors

Undergraduate Course Assistant and Grader   September 2021-present
· Ran problem sessions (3-5 hours weekly) for MAT 215/217 Honors Single Variable Analysis and Linear Algebra
· Graded written problem sets and coding assignments for COS 324 Introduction to Machine Learning
· Grading problem sets for COS 445 Economics and Computing

CLUBS AND INTERESTS

Competitive Programming in C++ (ACM), SWE, PWiCS, Machine Learning Reading (AI@Princeton), Aerial Arts Club, Painting, Breakdance (Sympoh Urban Arts), Yoga, Biking, Hiking