Nicolás Luarte

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Research interests

— Decision making under uncertain environments;

— Evolutionary roots of decision-making processes;

— Neural implementations of decision-making behavior;

— Cognitive search - exploration;

— Evolutionary psychology.

Education

— **Graduate**

2017 - 2019 M.S (Magíster) in Social Neuroscience Universidad Diego Portales, Thesis: Underlying strategies and neural implementations of foraging and cognitive search'; Advisor: Alejandra Rossi alejandra.rossi@udp.cl

2014 - 2015 M.S (Magíster) in Organizational Psychology Universidad Adolfo Ibáñez

— **Undergraduate**

2010 - 2014 BA (Licenciatura) Psychology Universidad Adolfo Ibáñez

Research experience

— **FONDECYT (National Fund for Scientific and Technological Development)**

Research assistant Collaborative study between the Psychology and Architecture school to study the perception of distinct urban environments using different methods, such as of Geo-referencing, EEG, and eye-tracking data acquisition. Assisted in EEG and Eye-tracker experiment setup and execution, data pre-processing and analysis.

Thesis-related research Masters thesis project on decision making processes under natural environments, comparing algorithms for both external and internal (cognitive) search, using an evolutionary frame-work. Literature review, opinion paper and experimental task scripting and execution.

Key responsabilities

— **Data acquisition**

· EEG (ENOBIO) and Eyetracker (Tobii) hardware and software setup

· Data management, labeling and backup

· Equipment synchronization

· General maintenance of research equipments

— **Data analysis**

· Scripting of MATLAB functions for data pre-processing

· Usage of equipment-specific proprietary software for proper data export

· Literature research for pupil diameter specific pre-processing under dynamic conditions

Relevant skills

— **Research-related**

· EEG (ENOBIO) hardware and software setup and usage

· Eyetracker (Tobii) hardware and software setup and usage

· General problem-solving

— **Programming**

· MATLAB, intermediate level

· R, basic level

· Python, basic level

Interests

— **Academic**

Decision-making Decision heuristics under uncertainty and in natural conditions; Algorithmic implementations of decision making processes; Neural implmentations of decision making processes; Decision-making behavior in a exploration-exploitation setup.

Adaptive behavior Locus Coeruleus adapative-gain theory, Endocrine modulation of behavior, state-based foraging, foraging, search.

— **Non-Academic**

· Music, bass-guitar player

· Weightlifting

· Technology

Conferences and courses attended

· Connectomics: brain networks; 2018 - 'Universidad Diego Portales'

· Connectomics: machine learning; 2018 - 'Universidad Diego Portales'

· EEG, basic usage and clinical applications; 2018 - 'Universidad Diego Portales'

· Neuropsychological rehabilitation; 2017 - 'Universidad Diego Portales'

References

Thesis advisor: Alejandra Rossi (alejandra.rossi@udp.cl) FONDECYT advisor: Francisco Parada (francisco.parada@udp.cl)