Selene Báez Santamaría

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Profile

I aspire to do research combining complementary Artificial Intelligence techniques (from Machine Learning to Knowledge Representation). My major area of interest is Natural Language Processing as a means for data ingestion to and enrichment of knowledge graphs. In the same manner, I believe in using prior structured knowledge as source data for AI applications, combining learning and modelling approaches.

Soft skills

I am a determined and goal-oriented person with strong analytical and critical thinking. I encourage collaborative workplaces that promote self-growth through challenging projects. I appreciate data-driven decisions and aim at providing data insights to all stakeholders that can benefit from it.

Technical skills

- Python (Pandas, PySpark, Tensorflow, Keras, Theano, scikit learn, nltk, spacy, Seaborne), Databases (SQL, SPARQL/RDF, neo4j), Java, Matlab, Prolog, Haskell, ROS, Git (Github: selBaez). WordPress.
- Native Spanish speaker. Bilingual proficiency in English.

Education

MSc in Artificial Intelligence *Cum Laude*. Vrije Uniersiteit Amsterdam (VU). Amsterdam, NLD.
Sep 2015 – Aug 2017

- VU Fellowship Programme Scholarship. Holland Scholarship Programme
- Master Thesis in collaboration with Beijing University of Technology (3 months on-site in Beijing). Topic on big data mining related to public transportation using supervised and unsupervised machine learning techniques for feature engineering (hand-engineered compared to autoencoders generated) and pattern recognition (ensemble models for classification and k-means clustering). Cluster computing and multithreading tools employed.

B.Sc in Cognitive Systems: Computational Intelligence & Design. *Graduated with distinction*
University of British Columbia (UBC). Vancouver, BC. Sep 2011 – Aug 2014.

- President's Entrance Scholarship. Trek Excellence Scholarship for Continuing Students. Faculty of Science International Students Scholarship

Professional experience

Artificial Intelligence Researcher. myTomorrows. Amsterdam. Jun 2019 – present.

- Processing of medical unstructured language to generate structured data in the form of a semantic knowledge graph. Supervision of interns for master thesis writing resulting in one ACL workshop paper publication

Data Scientist / Developer. myTomorrows. Amsterdam. Oct 2017 – Jun 2019.

- Implement ETL pipeline for big data ingestion of approved and pre-approval medical interventions. Development of APIs for data retrieval.

Watson Demo intern. Center for Advanced Studies, IBM. Amsterdam. Jul 2016 – Jan 2017.

- Create simple but powerful cognitive applications using 1) the Watson Developer Cloud for backend services and 2) Nao robots as interface. Perform end-to-end application development combining cognitive tools related to natural language, vision and speech.

Faculty Liaison. Learning and Technology Services (LTS) Sauder School of Business, UBC. Vancouver. Jan 2015 – May 2015.

- Incorporate interactive learning tools for students. Build course infrastructure and analysis of in-classroom needs. Integral in relationships management with key faculty.

Tech Rover. LTS Sauder School of Business, UBC. Vancouver. Nov 2013 – Dec 2014.

- Introduce new learning technologies for scalable student presentation recordings, e-workshops, and online lectures. Innovative and creative problem solving.

Classroom and Lab Support. Information Technology, UBC. Vancouver. Sep 2011 – Aug 2014.

- Provide with audiovisual support. for classes, conferences and special events. Ability to multitask and work efficiently under pressure. Strong customer service skills.

Teaching Assistant. Understand and Design Cognitive Systems, UBC. Vancouver. Spring 2014.

- Plan and supervise labs in which students program NXT Lego Mindstorms to perform collaborative or competitive tasks using decision theory principles.

Software Designer. C3 Consensus. Ciudad de Mexico. Summer 2013.

- Create user-friendly environments. Collaborate with teams working remotely.

Research experience

University Research Fellow. Computational Lexicology and Terminology Lab, VU. Amsterdam. Sep 2017 – present.

- Participate in Spinoza project: “Understanding Language by Machines”, this project focuses on enabling a Pepper robot to learn from language and context. Using Speech/Object recognition, NLP and Knowledge Representation techniques, it tackles problems of artificial cognition such as provenance, theory of mind, relevance and permanence.

Lab Assistant. Laboratory of Computational Intelligence, UBC. Vancouver. Nov 2013 – May 2014.

- Participate in CanWheel project for the improvement of a semi-autonomous robotic wheelchair navigation. Data collection and analysis techniques

Projects and Publications

- Baez, Selene. "Predicting opponent team activity in a RoboCup environment." *arXiv preprint arXiv:1503.01446*(2015).
- Baez, Selene. " Pattern recognition of traveling behavior: Beijing use case." *https://wiki.cs.vu.nl/mp/index.php/Commuter_classification_and_behavior_clustering:_Beijing_use_case* (2017).
- Liang, Quan, et al. "Individual Travel Behavior Modeling of Public Transport Passenger Based on Graph Construction." *Journal of Advanced Transportation* 2018 (2018).
- Vossen, Piek, et al. "Leolani: a reference machine with a theory of mind for social communication." *International Conference on Text, Speech, and Dialogue*. Springer, Cham, 2018.
- Manousogiannis, Emmanouil, et al. "Give it a shot: Few-shot learning to normalize ADR mentions in Social Media posts." *Proceedings of the Fourth Social Media Mining for Health Applications (# SMM4H) Workshop & Shared Task*. 2019.
- Vossen, Piek, et al. "A communicative robot to learn about us and the world." *Proceedings of the Russian Conference on Computational Linguistics (Dialogue 2019).* 2019.
- Vossen, Piek, et al. "Leolani: a robot that communicates and learns about the shared world." *International Semantic Web Conference.* 2019.
- Vossen, Piek, et al. "Modelling context awareness for a situated semantic agent." *Proceedings of the 11th International and Interdisciplinary Conference on Modeling and Using Context.* 2019.