Jair Wuilloud

Swiss, French and Brazilian nationalities
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SKILLS

PROGRAMMING
Julia (4/5)
Python (4/5)
C++ (3/5)
Bash (3/5)
Clojure/script (2/5)
JavaScript, HTML, and CSS (2/5)
Scala/Spark (2/5)
R (2/5)

MACHINE LEARNING
HD Computing (5/5)
Chatbots (4/5)
Natural Language Processing (4/5)
GPS Processing (4/5)
Neural Networks (3/5)
Reinforcement Learning (3/5)
Optimization (2/5)

TECHNOLOGIES
Git and Github (4/5)
AWS/LINODE/AZURE (3/5)
websocket/http (3/5)
Docker (3/5)

EDUCATION

POSTDOC
Theoretical Particle Physics
2009-2011, ITP, Bern, Switzerland

PHD
Theoretical Particle Physics
2006-2010, University of Münster, Germany

MASTER
Mathematical Physics
2006, Geneva, Switzerland

LANGUAGES

French (5/5), English (4/5), German (4/5), Italian (4/5), Portuguese (1/5)

LINKS

Github: **gilgameshjw**
LinkedIn: **jair wuilloud**

INTERESTS AND WORK

HIGH DIMENSIONAL COMPUTING
High Dimensional computing is a neuro-inspired technique based on binary vectors used in conjonction with symbolic logic. My work specialises on Sparse Distributed Memories's and their application to real business cases:

- multidimensional/multibrains Chatbot technology learning via "one shot learning"
- semantics sparse vectors (words, taxonomy, ...)
- fast, fuzzy query systems for medical data, GPS's space, Text, ...
- interplay with Neural Networks and Machine Learning: beaten classification scores on semeval2016 and MRDA datasets, integrated semantic SDM's with pytorch-chatbot
- unpublished papers, competitions and conferences
- developing HDComputing.jl, a julia open source module

COLLABORATIVE SYSTEMS
- built TaxiQ, real time recommender system for black cabs
- built automatised car sharing allocation solver

STARTUPS
- one of first employees in 3 of the best founded startups in London
- co-founded **Neurotrophic Labs**(USA, 2019–present), **PLEX AI**(GER, 2019–2020) and **TaxiQ**(UK/CH, 2016–2018): competitions, pitches, planning, prototypes and demos, recruited and worked with up to 7 people with low budgets (<10k$)
- recruiting and mentoring of younger partners

SOLUTIONS
Examples built from early concepts to MVP:

- at **mediaplayers**, data strategy processing 0.5×10^9 behavioural data points/day
- at **guesser**, implemented original financial models
- at **faxi**, automatised car sharing allocation solution that can also produce reports for customers
- with **plex ai**, a novel chatbot solution leveraging HD computing, with online editor/tester and connected to voice via an app on IOS
- with **neutrophic labs**, a frontend capable of evaluating basic correlations from US medicare dataset within a second
- **taxiq**, real-time, collaborative app for London black cabs

PAST WORK SUMMARY
- Behavioural simulations
- Recommender systems
- Bitcoin trading strategies
- Tweets processing: entity detection, sentiment analysis, ...
- Algorithms: earth mover distance algorithm in clojure, contributed to early cortex library (NNets, clojure), financial pricers, ...
- Financial models implementation and validation