Thomas BARRAS

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Employment

2016 Summer IRIT/CNRS Intern

Cross-platform mobile app — 2-person project

- Implemented a cross-platform mobile app for client drawing recognition with ionic2 (Angular2 + Cordova),Node.JS + Express, MongoDB.
- Suggested to work with web technologies to build cross-platform apps.

Education

2016–2017 Master

Computer Science — UQAC, Canada

- Artificial Intelligence, Data mining, Big data, Security, Cryptography, Algorithms, Data structures, Web semantic

2014–2017 Master

Computing and Applied Mathematics — ENSEEIHT, France

- Functional programming, OOP, Operating Systems, Algorithms, Data structures, Web, Semantic and languages translations, Concurrency, Meta-Programming, Numerical Optimization, Linear algebra, Hilbertian analysis, Differential Calculation, Integration, Probabilities, Statistics

Projects

2017 — **DCGAN image generator** — 1-person project

- Implemented a deep learning image generator based on Generative Adversarial Networks. (Python + TensorFlow)
- Trained it on MNIST to draw digits with 97% accuracy.

2016 — **Neuro Evolution** — 2-person project

- Implemented a feed forward neural network and genetic algorithm to build video game AI solver in unsupervised learning (C#).

2017 — **Constraint Satisfaction Solver** — 1-person project

- Implemented a graph constraints-based solver and applied it on sudoku game. (Python + OCaml)
- Reduce number of backtrack calls by x600.

2016 — **Neural-cryptography** — 1-person project

- Implemented a cryptographic protocol to exchange key based on neural networks synchronization. (Python)
- Prevent quantum computing with algorithm that is not based on any number theory.

2016 — **C# compiler** — 2-person project

- Implemented a C# compiler to generate simplified assembly language. (Java)

Technologies

Languages — **Java, Go, Javascript, Python, OCaml, C++, C**

Frameworks — **TensorFlow, NodeJS, AngularJS, MongoDB**