Ferdinand Ratajczak

Programming Intern

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EDUCATION

- 2019– **Programming**, École 42, Paris.
 - 2019 Engineering, ENGEES, Strasbourg, Water and Environment.
- 2016–2018 Classe préparatoire MP (Two-year intensive undergraduate course in Mathematics and Physics), Lycée Clémenceau, Reims, Computer Science elective.

Projects

- 2020 **ChessOCR**, Chess diagram recognition.
- C++ Detection and extraction of board squares using OpenCV
 - Piece classification using adaptive K-nearest neighbors algorithm
 - Exports positions in FEN format in order to analyze them with an engine
- 2020 **42sh**, *Unix Shell*.
 - C Group project with code review, unit tests, Travis CI
 - o Implemented a lexer and parser with an abstract syntax tree
 - Background process management (job control)
 - o All implemented features are POSIX compliant (IEEE 1003) Grade: 100/100
- 2020 **42Network Codingame Contest**, *AI for a real-time quidditch game*.
- C++ Complete reimplementation of the game engine to simulate outcomes
 - Genetic algorithm to find the best moves Ranked 4th / 1100
- 2018 **TIPE** (**Personal research project**), Centrale-Supélec / Mines-Ponts / INP Exam.

Python «Image recognition using neural networks»

- Handwritten digit recognition using neural networks
- o Studied the effects of different learning techniques on image recognition rates
- Presented my research in front of a panel of researchers

Final grade: 16/20

Skills

Programming C, C++, Python, Bash, JavaScript, Node.js, LATEX

Tools Git, Docker, Linux/Unix, SQL

Languages English (C2), German (B1), French (Native)

INTERESTS

Chess, Reading (History, Philosophy), Electronics, Guitar