Resume
Frederic Boileau
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Education

- UdeM Msc Computer Science (AI and Optimization, at thesis writing phase, on hiatus)
  2018-...

- Mcgill Bsc Mathematics and Computer Science
  2018

- Polytechnique BEng Electrical Engineering (2 years, not completed, GPA: 3.4/4)
  2015–2017

Work Experience

- ADOPT/IBS: CORE team (infrastructure, backend, optimization) developer
  2021

  - Improve the custom database (implemented in a in-house implementation of a Scheme with a reactive object model)
  - Implement new functionalities pertaining to relationships between objects and update propagation between them in above mentionned data model
  - Upgrade, maintain and develop new REST endpoints (Python and Flask)
  - Push new releases through custom pipeline (sh scripts, Makefiles, Docker, k8s + helm)
  - Maintain infrastructure (Kubernetes cluster managed through Helm releases) on in clusters both on local hardware (VMware) and remote (gcloud)

- GIRO: C++ developer for transport scheduling module team
  2017

  - Develop new features for transport visualization
  - Update codebase to new standards (e.g. C++14 and STL)
  - Implement database migration tool (essentially symmetric serializers and deserializers)
  - Maintain legacy C++98

- Ubisoft: data science intern for the User Research Lab
  2016
    - Write SQL (HiveQL) queries to present quantitative data to developer team
    - Produce dashboards for the developer teams and management teams
    - Address efficiency issues in big data environment (order of petabytes) with schema on read scheme.
    - Maintain the ETL pipeline (airflow), which includes monitoring the temporary tables in the associated directed acyclic graph and debugging failed queries.

- Resarch Institute McGill University Health Center: research assistant
  2015
    - Implement statistical analysis tools relevant to given data in R
    - Implement tool for automated periodic reporting of key metrics
    - Evaluate and recommend modifications concerning the data logging interface for clinicians and its impact on data analysis quality

- Santropol Roulant: bike coop program manager
  2014
    - Migrate ad-hoc sales system to point of sale system (POS) and computerized inventory management
    - Organize workshops in bike repair
    - Repair and maintain coop's bike fleet
    - Schedule and manage monthly meetings of the volunteer team

Tools/skills

- Advanced programming skills for production environment in Python, C++, Scheme, sh (bash zsh)

- Advanced Linux user, sysadmin skills. Experience working with Debian, REHL, and Arch based distributions.

- Working knowledge of C for embedded systems; projects pursued while an Electrical Engineering student. Includes participating in the Poly eRacing project as a member of the team focused on the battery management board (also involved PCB development.)

- Hobby level knowledge of ML family languages, Common Lisp, Emacs Lisp and Haskell

- Workflow tools used: vim, emacs (DOOM evil-mode), perl regexps, zsh, tmux, ssh, git, LaTeX

- Strong knowledge of mathematical foundations of numerical optimization

- Clarity, conciseness and correctness minded, conditionned through a strong pure mathematics education

- Mother tongue level in French and English, intermediate Portuguese reading.