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
  2012–2018

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

Work Experience

- ADOPT/IBS: Senior Product Engineer, member of "Core" team (infrastructure, backend, optimization)
  2021 (current job)

  - Improve and develop new features for the backend written in Scheme (R5RS) and an associated reactive object engine (incremental computation). This backend is mostly a layer for data consistency management that wraps around the companies' solvers.
  - Implement new functionalities pertaining to relationships between objects and update propagation between them in above mentionned data model (incremental computation)
  - Upgrade, maintain and develop new REST functionalities (Python and Flask)
  - Push new releases through custom pipeline (sh and Perl scripts, Makefiles, Docker, K8s + Helm)
  - Maintain infrastructure in clusters both on local hardware (VMware) and remote (gcloud)

- GIRO: C++ developer for transport scheduling module team
  2017 (7 months)

  - 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 (5 months)

  - 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)

  - 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 (1.5 year, part-time)

  - 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 (4 months internship)

  - 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

- Experience in production environment in the following languages Python, C++, C, Scheme (R5RS) and Bash + Perl for sysadminy challenges

- 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 and Emacs Lisp

- Workflow tools used: (n)vim, emacs (evil-mode), perl regexps, bash/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.

Misc/interests

- Writer of short stories and poetry in both English and French

- Interest in theory of literature (stylistics, hermeneutics, prosody)

- Favourite poets: Ted Berrigan, Alice Notley, John Berryman, Louise Glück

- Music theory and classical guitar

Strong tendency to be interested in opening black boxes. Examples include modern OS developments, compiler technologies, interesting languages with different paradigms; all the lisps, FP (ML family), concurrency focused ones (Go, Erlang), logic programming (Prolog)