Jiaxuan Chen

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Interests: Computer systems, Virtualization, Linux drivers, Storage Systems, Database, Compilers

EDUCATION

McGill University   Sep 2019 - May 2023

Honours Computer Science, Minor Mathematics   Bachelor of Science

GPA: 3.84/4
Awards: Dean's Honor List 2020

EXPERIENCE

Research Internship   May 2022 - Jul 2022

LIP Laboratory, École Normale Supérieure de Lyon   Lyon, France

Supervised by Prof Alain Tchana

- Research on Processing-in-memory technology of UPMEM PIM
- Virtualization of PIM capable memory to allow its utilization in the cloud
- Design and build the virtual driver for the Linux guest kernel and the corresponding module for the Firecracker hypervisor following the virtio and vhost architecture.

Research Assistant   Sep 2021 - May 2022

McGill University DISCS Lab, Department of Computer Science   Montreal, Canada

Supervised by Prof Oana Balmau

- Research on the capabilities and utilization of non-volatile memory
- Focus on applying persistent memory modules (PMEM) to Timeseries Databases
- Build Benchmark tests to evaluate the performances of TimescaleDB and influxDB

Electrical and Computer Engineering Grader   Jan 2022 - May 2022

McGill University, Department of Engineering   Montreal, Canada

- Grader of course COMP 310/ECSE 427 Operating Systems
- Grade assignments and exams of the course. Evaluate students' programming skills and work in operating systems, including the shell, the scheduler, memory management and the storage system
- Answer questions related to operating system assignments on an online discussion form (Ed)

COURSEWORK PROJECTS

A Comparative Analysis Between NLP models mBERT and XLM-RoBERTa

- Designed and performed a comparative analysis between two cross-lingual language models, Multilingual BERT(mBERT) and XLM-RoBERTa (XLM-R), on an Amazon reviews dataset consisting of reviews in six different languages.
- Fine-tuned the multilingual Bert model, collect and analyze the data

Mini C Compiler

- Implemented a mini object oriented C compiler using java from scratch
- This compiler is capable of compiling C to MIPS and run the MIPS output on a Java simulator
- Including implementation of a parser, AST, semantic analysis, code generation, register allocation and OOP support

C Code Evaluator

- Developed a command-line C application that evaluates programming assignments on modular programming, code indentation, commenting, documentation, variable naming, and built-in test cases
- The application will be used by computer science students to evaluate the professional quality of their source code

SKILLS

Programming languages: C, Rust, Java, Ocaml, JavaScript, MATLAB, Python, SQL
Development Tools: Git, Linux, Docker
Photography: I am also a amateur photographer. Check my gallery here