

THOMAS CARON

thomas.caron00@gmail.com | linkedin.com/in/thomascaron | thomascaron.cloud

EDUCATION

Polytechnique Montréal

Bachelor of Computer Engineering (B.Eng)

Montréal, QC

Sept. 2018 – May 2023

EXPERIENCE

Software Developer

May 2023 – Present

Squarepoint Capital

Montréal, QC

- Spearheaded development initiatives within a robust internal **Python framework** dedicated to web scraper creation and seamless integration with internal systems.
- Developed a **one-stop-shop Data Platform** management solution to support **10k+ web scrapers** to store **credentials**, metadata, pipeline executions and other developer tooling.
- Designed and maintained resilient web scraper infrastructure, leveraging **FastAPI**, **Kubernetes** and **Helm**, ensuring **cross-region high availability** and scalability, handling **millions of transactions per day**.
- Orchestrated the development and continuous upkeep of Python libraries pivotal for interfacing with **gRPC** and **HTTP services**, catering the needs of **quantitative analysts** across the organization.
- Significantly enhanced system performance by implementing comprehensive performance monitoring using **Prometheus** and **OpenTelemetry**, resulting in a **90%** reduction of **in-service latency**.
- Provisioned and managed highly available infrastructure components such as **HA PostgreSQL** and **Sentinel Redis**, supporting multiple teams' operational needs.

Software Developer

May 2022 - Apr 2023

Squarepoint Capital | Internship

Montréal, QC

- Developed reliable web scrapers in **Python** to efficiently extract data from diverse sources including websites and **FTP/SFTP** servers.
- Worked with quantitative analysts to integrate data into an internal Timeseries database system, enabling **efficient storage and analysis**.
- Identified and resolved issues within scrapers during **support rotations**, ensuring smooth operations.

Software Developer

May 2021 - Aug 2021

Heyday by Hootsuite | Internship

Montréal, QC

- Built and deployed an ETL platform using **Apache Airflow** and **AWS CloudFormation**.
- Created **ETL pipelines** using Airflow to transform unstructured data and generate self-served reports.
- Utilized **AWS Athena** for efficient querying and manipulation (partitioning, adding/modifying data) of large datasets using SQL-like syntax into parquet files.
- Developed serverless Node.js APIs using **AWS Lambda functions**, to index data from streaming pipelines (**Kinesis Data Firehose**) into **Elasticsearch**.

Full Stack Developer

Apr 2020 - Oct 2020

Letmetalk | Internship

Montréal, QC

- Built a CRM-like full stack application with **React**, and **Django**, using SQL queries for efficient data management.
- Integrated internal services with external APIs (**Zapier**) to streamline business processes.
- Implemented **CI/CD** pipelines on Azure DevOps to automate builds, testing and deployments.

PROJECTS

Final Project in Computer Engineering | Collaboration with GHGSat

Jan 2023 – May 2023

- Developed a **highly-available API** using FastAPI to predict Albedo values (Earth's reflectivity) across the entire globe with **50-meter precision**.
- Implemented ETL job utilizing **NASA's API** to download satellite data for model training and prediction.
- Trained and deployed **seasonality models** to accurately predict Albedo values across seasonal variations.
- Integrated data with **PostgreSQL** and **PostGIS** to create a spatial index for optimized Albedo retrieval.

TECHNICAL SKILLS

Languages: Python, TypeScript, Rust, SQL, Java, C/C++

Libraries & Frameworks: FastAPI, React, Django, Helm, Apache Airflow, Express.js, Serverless, Angular

Tools & Platforms: Git, Docker, Azure, Google Cloud, AWS, Kubernetes, ArgoCD

Operating Systems: Windows, UNIX-based systems (Ubuntu, Arch, RHEL / Rocky), Mac OS