

# Mourjo Sen

<https://mourjo.me> | [hello@mourjo.me](mailto:hello@mourjo.me)

## EXPERIENCE

### GOJEK Lead Software Engineer

February 2021 - Present

- Leading **architecture decision reviews** and design choices.
- Service-oriented architecture using **Elixir, PostgreSQL, Redis, Elasticsearch**.
- Stream processing using **Flink, Kafka, Airflow, BigQuery**.
- **Performance improvements** in core components.

### HELPSHIFT Data Engineer III

March 2020 - February 2021

- Modernization of legacy Hadoop platform handling 1 PB of data to "Delta Architecture" using **Apache Spark, Delta Lake, Databricks**.
- **Comparison between cloud data platform providers**: Databricks, Snowflake, Amazon EMR, Cloudera Data Platform, Google Cloud Platform.
- **ETL platform** for no-code data pipeline ingesting from multiple sources into the data warehouse with transformations.
- Rearchitect legacy data pipelines that **maintain timeliness** with late arriving data.

### HELPSHIFT Backend Engineer III

October 2015 - February 2020

- Services that handle **30K requests/sec** using Clojure with **Elasticsearch, ScyllaDB, MongoDB, Kafka, Redis**.
- JVM threadpool lifecycle manager for **graceful shutdown** of services.
- Resilience components for services: **load shedding, circuit breaking, resource pooling**.
- Filtering DSL: One common language module to **plug in with multiple data sources**.
- Server-side sessions layer for HTTP services for **authentication/authorization**.
- Property-based testing using the **QuickCheck** method to automate test case generation.
- Concurrent benchmarking framework using **communicating sequential processes**.

### SPAM DETECTION IN TWITTER with Dr Arnaud Legout, Inria

April 2014 - August 2015

- Analyzing the **Twitter graph** to find a measure of "trust" based on users' activities and connections on Twitter, to detect spam behaviour.
- Followed with a 6-month internship on this topic funded by **Mircosoft Research**.

## PERSONAL PROJECTS

July 2012 - present

- **Bounded recursive generator** for property-based testing in Clojure. [git.io/JtA9p](https://git.io/JtA9p).
- **Load shedding middleware** in HTTP servers <https://git.io/J1IK8>.
- **Request timeout handler** for async request processing in Clojure's Ring/Jetty adapter. [git.io/JtASo](https://git.io/JtASo)
- **CreatureSim**: Dynamic classloading in Java to implement runtime plugins. [git.io/JtASM](https://git.io/JtASM)
- **Alienvation**: Developing a GUI game using **Java Swing** inspired from space invaders. [git.io/JtASd](https://git.io/JtASd).

## ACHIEVEMENTS

- Conference talk at **re:Clojure 2020** on "Building Resilient Services in Clojure".
- **30K+** reads on technical blog posts on Medium.
- Three research publications, two of which are **IEEE publications**.
- Conference talk at **In/Clojure 2019** on **A Fair Task Execution Framework**.
- Laboratory of Excellence (LABEX) **scholarship** of € 12,500 awarded by Labex UCN@Sophia for Master's degree.

## EDUCATION

### UNIVERSITÉ NICE MS in Computer Science

2013 - 2015, Nice, France

- Fully funded
- Specialization in Networking
- Grade: 15.98/20 (**80.1%**)
- Rank: **1<sup>st</sup>**

### ST. XAVIER'S COLLEGE

BSc in Computer Science

2010 - 2013, Kolkata, India

Grade: 83.6% (**Rank 4<sup>th</sup>**)


### MOOCS

2017 - present

- **Data Engineering** with Google Cloud, 2021
- Ultimate hands-on **Hadoop**: Tame your big data, 2020
- Introduction to **Functional Programming in OCaml** (Université Paris Diderot), 2019
- **Functional Programming Principles in Scala** (École Polytechnique Fédérale de Lausanne), 2017

## LINKS

 [github.com/mourjo](https://github.com/mourjo)

 [linkedin.com/in/mourjosen](https://linkedin.com/in/mourjosen)

 [medium.com/@mourjo\\_sen](https://medium.com/@mourjo_sen)

 [twitter.com/mourjo\\_sen](https://twitter.com/mourjo_sen)