

# Mourjo Sen

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## EXPERIENCE & PROJECTS

### HELPSHIFT Software Engineer III

October 2015 - present

- Product development in Java and Clojure with focus on **platform-related work** with Elasticsearch, ScyllaDB, MongoDB, Kafka, Redis, Spark.
- "Subject-matter expert" for **Elasticsearch-related** work at Helpshift.
  - Built a DSL-based **search engine** using **Elasticsearch**, while providing helpful **autocompletions**.
  - **Optimizing queries** with static analysis to provide 60% faster results and 100% increase in percolation capacity.
- Wrote property-based tests (generative tests) using the **QuickCheck** method to automate test case generation resulting in 80,000 assertions in 1 min.
- "Subject-matter expert" for benchmarking and **capacity-planning** technologies at Helpshift. Developed a highly concurrent benchmarking framework using **Go-like channels** and thread pools.
- Sole maintainer of authentication/authorisation of **HTTP sessions**.
- Part of **technical interview panel** at Helpshift.

### 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.
- Using Twitter **REST APIs** and **Streaming APIs** to collect data.
- Followed with a 6-month internship on this topic funded by **Microsoft Research**.

### PET PROJECTS

February 2011 - present

- **Edusoc**: A web-based **social network for education** that promotes education by making it a social activity. Developed using **PHP** and **MySQL**. [github.com/vabh/EduSoc](https://github.com/vabh/EduSoc).
- **JChirp**: A **Java wrapper** to access to the Twitter REST and Streaming APIs with authentication. [github.com/vabh/JChirp](https://github.com/vabh/JChirp).
- **Alienvation**: Developing a GUI game using **Java Swing** in which a player controls spaceships and fights against aliens. [github.com/mourjo/Alienvation](https://github.com/mourjo/Alienvation).

### OTHER PROJECTS

July 2012 - January 2015

- **Scheduling virtual machines** in a simulated datacentre to meet the SLA, minimize energy consumption and maximize revenue. Used CloudSim framework.
- **AI game engine** in Java for the African game Oware.
- **CreatureSim**: A Java project to simulate an environment with **communicating independent agents** that move around, form groups, search for interest points and have real-time **plugin-based behaviour**.
- Three research publications, two of which are **IEEE publications**.

## EDUCATION

### UNIVERSITÉ NICE

MS in Computer Science

2013 - 2015, Nice, France

– First Year:

- Grade: 15.18/20 (**75.9%**)
- Rank: **2<sup>nd</sup>**

– Second Year:

- 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

- Introduction to **Functional Programming in OCaml** (Université Paris Diderot)
- **Functional Programming Principles in Scala** (École Polytechnique Fédérale de Lausanne)

## AWARDS


- Spot Award at Helpshift for **benchmarking** and **streamlining** of Elasticsearch cluster.
- **Laboratory of Excellence (LABEX)** scholarship of € 12,500 awarded by Labex UCN@Sophia for first and second year of MS.


## SKILLSET

Clojure • Java • Python • Scala • OCaml • Kafka • Cassandra • Elasticsearch • MongoDB

## LINKS

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

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

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

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