

# Matheus Jun Ota

COMPUTER SCIENTIST

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## Experience

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### Facebook

London, UK

SOFTWARE ENGINEER INTERN

2020

- Developed innovative solutions for the next generation of Virtual Reality environments.
- Code was written using C++ and OpenGL. Designed efficient algorithms so that the application executes smoothly.
- Collaborated with Design team to provide a great user experience.

### University of Campinas

Campinas, Brazil

RESEARCH ASSISTANT

2018 - 2020

- Designed new algorithms for a problem related to partitioning graphs into connected components.
- Work was accepted for the International Symposium on Combinatorial Optimization (ISCO 2020).
- Scientific scholarship received from the National Council for Scientific and Technological Development (CNPq).

### Daitan Group

Campinas, Brazil

BACK-END DEVELOPER

2017 - 2018

- Developing solutions on the server-side for a project about Voice over IP (VoIP).
- Used common web-development technologies like: Java, Spring Boot, Maven, ActiveMQ, MariaDB, Docker and Git.
- Frequently collaborated with Front-End team to synchronize on the solution design and architecture.

### University of Campinas

Campinas, Brazil

RESEARCH ASSISTANT

2017 - 2018

- Under supervision of professor F. K. Miyazawa, worked on solving the Capacitated Vehicle Routing Problem (CVRP) using Integer Linear Programming techniques.
- Implemented state-of-the-art exact algorithms for CVRP using C++ and SCIP library.
- Scientific initiation scholarship received from the National Council for Scientific and Technological Development (CNPq).

### University of Denver

Denver, US

RESEARCH ASSISTANT

2016

- Under supervision of professor Nathan Sturtevant, made a Puzzle Generator using Procedural Content Generation (PCG) techniques.
- Work was published in the proceedings of the Fourteenth Artificial Intelligence and Interactive Digital Entertainment Conference (AIIDE 2018).

## Education

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### M.S. in Computer Science

Campinas, Brazil

UNIVERSITY OF CAMPINAS

2018 - 2020

### Exchange Student

Durham, US

UNIVERSITY OF NEW HAMPSHIRE

2015 - 2016

### B.S. in Computer Engineering

Campinas, Brazil

UNIVERSITY OF CAMPINAS

2012 - 2018

## Side Projects

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### Chinese Postman Heuristics for Garbage Collection

2019

- Adapted the heuristics in the Arc Routing Library for the context of garbage collection.
- In collaboration with a company that provides consulting services for urban planning, we merged the adapted heuristic with MapInfo program. This way, the user can call the algorithm as a new tool inside the software.

### Control Channel Scheduler for the Downlink of LTE Networks

2018

- In collaboration with professors F. K. Miyazawa and N. Fonseca, and the PhD student Tiago P. C. de Andrade, we developed Integer Linear Programming models and heuristics for a problem arising in the context of LTE networks.
- Computational experiments has shown that our approach is more efficient than current state-of-the-art methods.
- Work was presented on the 20th edition of the National Workshop on Problems of Cutting and Packing, Planning and Production Scheduling (ONPCE).

### Classifier for Breast Cancer Diagnosis

2016

- Using Random Forests and R language.
- The classifier got an average accuracy of 94%.