

# GUILLAUME LAM

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guillaumelam.com

github.com/GuillaumeLam

## NOTABLE PROJECTS

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June 2021 - Present

**Hebbian Liquid State Machine trained with RL**, project w/ **MILA**  
- Investigation of combination of biological learning rules with the RL setting for dynamic patterns learning  
- Spawned the package: [LiquidStateMachine.jl](#)

2019 Nov

**Reproducibility Challenge** of a **NeurIPS** paper, final project for a course  
- At the discretion of students, the final project of verifying results of a published paper was allowed to be a NeurIPS paper and students could enter the Reproducibility Challenge.  
- Following the ablation track, my team and I verified the sensitivity of parameters published in a paper. ([Link](#) which includes our paper, the code repository, the run data, and the original paper)  
- Original paper explored the success of unsupervised learning of the representation of states for multiple atari games.

## WORK EXPERIENCE

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### MILA

June 2021 - Present

**Research Intern** (Montreal, Qc)  
- Supervised by Dr. Rish

### Ormucio

May 2019 - Aug 2019

**Software Developer Intern** (Montreal, Qc)  
- Developed algorithms for closed-loop & self-healing environments in **Python**.  
- Implemented new services and calls for the backend using **Flask**.  
- Developed new features for the frontend using **React**.

### Jive Communications

May 2018 - Aug 2018

**Software Developer Intern** (Montreal, Qc)  
- Ported main service from virtual machines to containers using **Docker** and **Kubernetes**  
- Developed the new voicemail transcription feature in **Go** using **Google's Speech**.

- Developed voicemail load testing tool using **Go**, **Bash** and **Docker**.
- Improved deployment tool of application

## Ericsson

May 2017 – Dec 2017

### Software Developer Intern (Montreal, Qc)

- Developed mobile interface for an Internet of Things (IoT) platform monitoring home and neighbourhood security using **Ionic**.
- Improved overall architecture of application using **Flask** and **MongoDB**.
- Deployed machine learning in facial recognition to detect potential dangers of break-ins using **OpenCV** and **Tensorflow**.

## OTHER PROJECTS

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2019 Nov	<b>Parallelized CNN</b> from scratch in <b>C++</b> , final project for a course <ul style="list-style-type: none"> <li>- Implemented a CNN from scratch as final project for a parallelization course fully in <b>C++</b>.</li> <li>- Parallelization was achieved using the <b>CUDA</b> library.</li> </ul>
2018 Oct	<b>GIF Sentiment Analysis</b> with <b>McGillAi</b> , student run organisation <ul style="list-style-type: none"> <li>-Worked with team on project to recognise emotion in a GIF (small video).</li> <li>-Application being built in <b>python</b> and uses machine learning libraries such as Keras, Tensorflow, and PyTorch.</li> <li>-Using the MIT GIFGIF media lab data as dataset for project and relies on <b>deep learning</b>.</li> </ul>
2018 Jan	<b>Ai Tetris Player</b> at Conuhacks, <b>Hackathon</b> <ul style="list-style-type: none"> <li>-Built a Tetris player in Python and Javascript using Flask which hosts the player</li> <li>-Used Python tensorflow to build Ai to play the game</li> </ul>
2017 Nov	<b>Accident Predictor</b> at Code Jam, <b>Hackathon</b> <ul style="list-style-type: none"> <li>-Team lead on developing project which would anticipate accident rates in Montreal.</li> <li>-Application helps predict accident probability based on time and weather conditions on roads.</li> </ul>
2017 Jan	<b>Face descriptor</b> at McHacks, <b>Hackathon</b> <ul style="list-style-type: none"> <li>-Worked on an application that could create a description of a newly seen face.</li> <li>-Description of new face based on similarity to trained faces using Microsoft's Face API.</li> </ul>

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## TECHNICAL SKILLS

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<b>Programming Languages</b>	Julia – Python – C – C++ – Bash – GO - Java –
<b>Libraries &amp; Frameworks</b>	JavaScript/Node – Html/CSS – Perl PyTorch– Tensorflow – OpenCV – Keras – MongoDB –
<b>Tools</b>	Flask – Ionic – React
<b>OS</b>	Git – Docker – Kubernetes
<b>Spoken Languages</b>	(Li/U)nix – Windows – Mac English, French; full professional proficiency for both

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## EDUCATION

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2020 - (2022)	<b>University of Montreal (MILA),</b> Ms Computer Science, AI specialization CGPA: 4.3/4.3
2016 - 2020	<b>McGill University,</b> B. Eng in Software Engineering CGPA: 3.5/4.0

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## ACADEMIC DISTINCTIONS

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Fall 2017 - Present	<b>Golden Key Member,</b> membership requiring to be in top 15% of your program
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## REFERENCES

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Available upon request