

# MAXIM PIATINE

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

<https://maxpiatine.github.io>

## Summary

Software Engineer with experience deploying and operating production systems in high-security environments. Specializes in Golang and Python, backend services, distributed systems, and cloud infrastructure. Strong mathematical foundation in statistical modeling and dynamical systems, with a background in computational neuroscience and data-driven simulation.

**Languages** C++, Golang, Python, JavaScript, R, SQL, Bash, Rust

**Developer Tools** Git, Docker, Nginx, AWS, MySQL, MongoDB, Oracle, Grafana, Gunicorn

**Frameworks & Technologies** Linux (Ubuntu, RedHat, CentOS), Django, React, .NET

## WORK EXPERIENCE

### Forward Deployed Software Engineer, NRT Technology

Toronto, ON (May 2024 - Present)

- Led end-to-end deployment of **23 projects** on Linux servers within casino DMZ environments, contributing to **CI/CD** workflows by building, configuring, and validating production releases across multiple client deployments supporting mobile applications used by **50,000+ users**. Configured MySQL/MSSQL/Oracle databases, system services, SMTP pipelines, REST APIs, Route53 DNS, SSL certificates, and Nginx reverse-proxy configurations for Golang gorillamux services.
- Migrated latency-sensitive legacy Python DM services to **Golang** on AWS, improving runtime efficiency by **23%**, reducing request latency, and increasing service stability across production environments.
- Built custom **Docker**-based deployments for DM services with external Oracle database connectivity on **AWS** phone servers, resolving integration constraints that blocked standard deployment pipelines.
- Implemented production security and observability features, including MFA and **JWT**-based authentication, **OTP**-based identity verification between slot machines and mobile applications, and centralized logging and metrics integrated with **Grafana** for real-time monitoring.

### Research Assistant, uOttawa

Ottawa, ON (Sept 2024 - Sept 2025)

- Contributed to a neuroscience publication through computational modeling and simulation of cortical microstimulation.
- Designed and implemented reduced-order (toy) models to study axonal and soma recruitment dynamics under electrical stimulation.
- Assisted in building and running **spiking neural network** in **PyTorch**, analyzing transient amplification effects under direct and indirect stimulation.
- Performed quantitative analysis by fitting model outputs to experimental data, evaluating consistency between simulated and observed cortical responses.

### Software Developer / Full Stack Developer, Rolls-Royce

Montreal, QC (June 2022 - June 2023)

- Utilized Agile methodologies and Azure DevOps to meticulously audit and breakdown business requirements, ensuring alignment with user needs and functionality (**CRUD**). Led a project to streamline part test organization during engine testing, enhancing departmental efficiency.
- Engineered a Data Management System using **Django web framework**, employing **MVC architecture** to meet stakeholder business requirements. Implemented a Scheduler, Detection, and Processing architecture to manage files/folders while ensuring robust error handling and change auditing. Integrated **models, views, unit testing, APIs, and jinja templating** for comprehensive functionality.
- Developed a custom **API** to facilitate seamless communication between various applications within Rolls-Royce, leveraging URL endpoints for data filtering based on file/folder attributes such as size, source, registration date, and tags.

## PROJECTS

### Seizure Detection

- Developed a seizure detection pipeline for EEG time-series data using **recurrent neural networks** and Fourier-domain feature extraction to identify predictive biomarkers.
- **Technology:** PyTorch, RNN, Docker

### Expenses & Savings Platform

- Designed and implemented a personal financial full-stack grocery expense tracking platform that analyzes purchase data to identify cost-saving opportunities across stores.
- **Technology:** .NET, SQL, React

## EDUCATION

### University of Ottawa, Master in Science Physics

Ottawa, ON

- Thesis-based M.Sc. program in **Physics**.

### University of Toronto, Honours Bachelor of Science

Toronto, ON

- Double major in **Physics & Statistics**, and **Mathematics** Minor