

AZIZ ZAYED

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🏛 EDUCATION

McGill University, Montréal, QC Jan. 2025 – Est. Dec. 2029

Ph.D. in Computer Science

Fast-Track from M.Sc. to Ph.D. after 1 year

Advisor: Prof. Christophe Dubach

Fields of study: Compilers; Compiler Optimization; Equality Saturation

McGill University, Montréal, QC Sep. 2020 – Dec. 2024

B.Eng. in Software Engineering, GPA: 3.93/4.0 (DEAN'S HONOUR LIST)

📖 PUBLICATIONS

- Jonathan Van der Cruyse, **Abd-El-Aziz Zayed**, Mai Jacob Peng, and Christophe Dubach. Parallel and customizable equality saturation. In *Proceedings of the 35th ACM SIGPLAN International Conference on Compiler Construction (CC)*, 2026 [\[Paper\]](#)
- **Abd-El-Aziz Zayed** and Christophe Dubach. Dialegg: Dialect-agnostic mlir optimizer using equality saturation with egglog. In *Proceedings of the 23rd ACM/IEEE International Symposium on Code Generation and Optimization (CGO)*, 2025 [\[Paper\]](#) [\[Slides\]](#)

</> INTERNSHIPS

McGill CASL Lab Montreal, QC

Compilers Undergrad Researcher

May – Sep. 2024

- Designed DialEgg, a novel tool for dialect-agnostic **MLIR** optimization using equality saturation
- Evaluated DialEgg with case studies, demonstrating optimization capabilities and versatility
- Published DialEgg to **CGO 2025**, presented in Las Vegas, NV in March 2025

Morgan Stanley Montreal, QC

Data Science Intern

May – July 2023

- Built state-of-the-art **machine learning models** to detect anomalous or fraudulent transactions
- Enhanced security measures against fraud for hundreds of clients
- Collaborated with clients and stakeholders to refine and optimize security strategies

NVIDIA Toronto, ON

Software Engineer Intern - Omniverse

Aug. – Dec. 2022

- Created nodes for **OmniGraph**, the compute and data flow engine for Omniverse
- Tested nodes for ActionGraph compute graph, increasing code-coverage by over 20%
- Collaborated cross-functionally with stakeholders and engineers to plan OmniGraph design changes

Amazon New York, NY

Software Development Engineer Intern - Supply Chain Optimization

May – Aug. 2022

- Deployed risk assessment **ML models** to catch risky buys from our vendors in the supply chain
- Reduced model request latency by 35% compared to previous deployment solutions
- Automated the ML model deployment cycle with **Amazon SageMaker** and **IaC**

Amazon Web Services

San Francisco, CA

Software Development Engineer Intern - Deep Engine

May – Aug. 2021

- Contributed to **DJL**, a state-of-the-art **deep learning** frontend used by Amazon and Netflix
- Improved DJL's support for **GANs** used to create generative models from data
- Created intuitive examples to demonstrate the capabilities of GANs with DJL

PROJECTS

cegg : An implementation of equality saturation in C++	(C++) GitHub
DialEgg : First dialect-agnostic equality-saturation-based MLIR optimizer	(C++) GitHub
foresight* : Parallel and customizable equality saturation	(Scala) GitHub
Deep Java Library (DJL)* : A deep learning frontend in Java	(Java) GitHub
cas : Computer algebra system	(C++, Java) Java C++
chick* : Type checker for a dependently-typed list language	(OCaml) GitHub
minicc : Mini C compiler from scratch	(Java) COMP 520
rt3 : A high-performance raytracer and pathtracer with Taichi	(Python, Taichi) COMP 557
g3 : An intuitive graphics engine built on OpenGL and Metal	(C++, ObjC, Metal) GitHub
colorbot* : Robot to sort colored cubes in containers	(Python, BrickPi) ECSE 211
* : Contributor	More on my GitHub

AWARDS & HONORS

McGill Engineering Doctoral Award (MEDA)	Jan. 2026 – Jan. 2030
McGill Engineering Undergrad Student Master's Award (MEUSMA)	Jan. 2025 – Jan. 2026
McGill Engineering Dean's Honour List	2024
McGill Class of Engineering 1953 Scholarship	2023
McGill Engineering Faculty Award	2023
McGill Class of Engineering 1975 Scholarship	2022
McGill Engineering Excellence Scholarship	2021

TEACHING

- [An Introduction to Equality Saturation and Its Applications](#) (Guest Lecture, McGill University)
- [COMP 520: Compiler Design](#) (TA, McGill University, Winter 24 & 25)
- [ECSE 250: Fundamentals of Software Development](#) (TA, McGill University)

SKILLS

- **Languages:** Java, C/C++, Python, Rust, OCaml, MLIR, etc. (Open to other languages)
- **Tools & Frameworks:** MLIR, LLVM, Docker, AWS, SageMaker, TensorFlow, PyTorch
- **Relevant Courses:** Compiler Design, High-Level Synthesis, Parallel Computing, Deep Learning, Database Systems, Operating Systems, Distributed Systems, Computer Networks, Computer Vision, Algorithm Design, Competitive Programming