Roman Huts

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EDUCATION

University of Toronto   Toronto, ON
Honors Bachelor of Science with Distinction, Computer Science Specialist   *2015 – 2020*

EXPERIENCE

Senior Software Engineer, Developer Solutions   2020 – Present
AMD   *Markham, ON / Remote*
- Improved encoding efficiency by 30% for AMD GPU users by integrating AMD's **AV1 encoder** into OBS with around **20 million users (C/C++).**
- Enhanced Pre-Analysis and Pre-Processing component performance by up to 15-fold by implementing **hardware accelerated** versions of CPU based algorithms **(OpenCL / DX11 / DX12 / Vulkan / C++)** in the AMF SDK (GitHub), improving the user experience for up to **285 million users** of AMD GPU drivers worldwide.
- Delivered 9 public AMF SDK releases, resolved **80+ external developer issues**, and hundreds of internal bugs.
- Expanded customer base by delivering multiple ONNX model audio processing demos to new external customers, adding Linux support, and integrating into the AMF SDK - both as a ready to use component as well as a plugin for internal applications.
- Promoted from Software Development Engineer 2 (2022). Speaker at **Former Co-op Panel** infront of **170+** students.

Software Developer Intern, Game Engine Integration   2018 – 2019
AMD   *Markham, ON*
- Improved SDK robustness by fixing over 20 bugs for AMF and LiquidVR SDKs such as eGPU support **(C++).**
- Expanded support for AMD products by integrating **FreeSync 2 HDR** into **Unreal Engine 4 (C++)**.
- Enhanced AMF SDK code quality by taking ownership and maintaining 98% up time for the team's Jenkins CI/CD automation server **(Python / Bash / Groovy)**.

IT HelpDesk Intern   2017 – 2018
IMAX, Corporate Office   *Mississauga, ON*
- Shortened setup time for new hires by 5-fold by developing tool to automate setup **(PowerShell/XAML)**.

Teaching Assistant   2017
University of Toronto   *Mississauga, ON*
- Invigilated and marked midterm examinations, held reoccurring tutorial sessions for groups of 30 students.

BUSINESS PROJECTS

NDIO Customs | *Node, Javascript, HTML, design and development of e-bikes and lithium battery packs*
- Awarded **1st place winner** for Special Construction class custom build at the North American International Motorcycle Supershow(2023).

DataSocial.pro | *Python, MongoDB, Selenium*
- Improved outreach of online brands by **65%** by profiling and scraping thousands of brand ambassadors.

Licensing Lead Generation for Music Use (DCSIL Program) | *Android Studio, Java, Flask, Python, Heroku, Redis, MongoDB*
- Lead team development of cross platform app for generating non-confrontational leads.
- Pitched to **multiple leaders** in the **music licensing** industry space such as BMAT USA and Dataclef (subsidiary of SOCAN). (MVP Tech Demo)

AWARDS

- CG Recognition award for shipping **AV1** with **OBS** (AMD 2022)
- Spotlight award for role in **version control system migration** (AMD 2021)
- Recognition award for **outstanding** co-op **mentorship** (AMD 2021)
- Nominated for Innovation Showcase for Shader Optimization Benchmark Tool (AMD 2021)

TECHNICAL SKILLS

Languages: C++, C, Python, Bash, JavaScript, SQL, Solidity, HTML, CSS, Groovy
Computer Graphics: OpenCL, DirectX11, Vulkan, DirectX12
Developer Tools: Visual Studio 2022, VS Code, Git, GitHub, Perforce, JIRA, Confluence, GDB, GPUView, Valgrind, RadeonGPU Analyzer, Elecard StreamEye Stream Analyzer, ONNX Runtime, Ultralytics, OpenCV, CodeQL,
Operating Systems: Linux, Windows