Jordin McEachern

Master of Applied Science — Computer Engineering

🌐 jord.in   ✉ cv@jord.in   🐙 jordin   in jordin-m   📍 Halifax, NS, Canada

💼 Experience

UW-STREAM 📅 Aug 2023 - Feb 2024 📍 Remote

- **Independent Contractor:** Created and utilized runtime performance metrics to ensure consistent real-time operation of their underwater system. Collaborated with key team members and provided guidance that facilitated project completion.

FORCE 📅 Sep 2021 - Mar 2022 📍 Halifax

- **Graduate Intern:** Developed a real-time localization system on a Zybo Z7 SoC. Created controller (C) running in a custom PetaLinux environment and integrated an existing localization algorithm (VHDL).

Dalhousie University 📅 Sep 2020 - Aug 2023 📍 Halifax

- **Graduate Research Assistant:** Developed a real-time underwater acoustic receiver processing system and trained students to implement and test their own algorithms using the receiver framework.
- **Computer Security Lab Developer:** Enhanced the course by developing engaging lab activities with clear instructions leveraging a pair of Raspberry Pis.
- **Teaching Assistant:** Guided students through lab sessions and tutorial demonstrations. Assessed reports and provided detailed feedback to foster learning and growth.

🎓 Education

Master of Applied Science — Electrical Engineering

Dalhousie University 📅 2020 - 2023 📍 Halifax

🏛 Funded by the Mitacs Accelerate program.

Bachelor of Engineering — Electrical / Computer

Dalhousie University 📅 2016 - 2020 📍 Halifax

🏆 Graduated with distinction.

📖 Publications & Presentations

An Embedded Real-time Passive Underwater Acoustic Localization System using a Compact Sensor Array

Dalhousie University 📅 Apr 2023 📍 Halifax

Harbour Porpoise Localization System Using Compact Acoustic Sensor Arrays

WUWNet'22 📅 Nov 2022 📍 Boston, MA, US

Passive Localization Algorithm using a Highly Integrated Acoustic Sensor Array

NEWCAS2022 📅 Jun 2022 📍 Québec City, QC, CA

🏆 Won 2nd place paper award. Showcased a live demo of the system during the TEXPO2022 competition.

🛠 Projects

Passive Underwater Localization using a Compact Acoustic Sensor Array

Fundy Ocean Research Centre for Energy (FORCE) & JASCO Applied Sciences 📅 Jan 2021 - Apr 2023

Developed a sensor geometry evaluation and optimizer to minimize localization error. Analyzed and mitigated the effect of noise using different processing techniques.

Enabling Light Shows with Drones

Spiri Robotics 📅 Sep 2019 - Apr 2020

Autonomous collaboration between drones to create interesting shapes and patterns. Visualization created in Java with LWJGL. Simulation created in Python with ROS.

Light-Weight Messaging Kernel

Real Time Systems 📅 Sep - Dec 2019

Kernel (C) provides process scheduling and messaging. UART processes used to communicate with model train set and host computer running a map display.

X-Makina Assembler & Emulator

Computer Architecture 📅 May - Aug 2019

Assembler (C++) converts X-Makina instructions (ASM) into Motorola S-Records. Emulator (C) includes a S-Record loader and a complete debugging environment.

👥 Competitions

redpwnCTF 📅 Jun 2020

Captured 20 flags with one teammate. Flags obtained in crypto, pwn, reverse engineering, web, and misc.

Google Hash Code 📅 Feb 2020

Completed with two teammates. World: 252nd/10724. CA: 3rd/135, UK: 6th/406, US: 13th/619.

Diversity & Inclusion Hackathon 📅 2020 📍 ShiftKey

Created SQARE, an all-in-one tool to facilitate *fair and square* promotion opportunities for all by anonymizing the evaluation and hiring process.

🏅 Achievements

Sexton Scholar Dalhousie University 📅 2017

Governor General's Academic Medal 📅 2016

📊 Skills

Languages Java / Rust / C / C++ / TypeScript / Python

Technologies Git / React / Astro / Tailwind