HANNA TON THAT

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TECHNICAL SKILLS

Languages: , C/C++, Java, Python, JavaScript, HTML/CSS
Frameworks: React, Node.js, Flask, Flutter, Dash
Developer Tools: Git, Docker, VS Code, Visual Studio, Firebase
Libraries: PyTorch, DIPY, pandas, NumPy, Matplotlib

EXPERIENCE

Software Research Intern May 2024 – Aug 2024
CHU Sainte-Justine *Montreal, QC*

- Developed Python-based machine learning algorithms with TensorFlow and PyTorch to detect punctate white matter lesions in neonatal neuroimaging datasets
- Optimized diffusion imaging models (DTI, DKI, Free Water, Q-Ball) using DIPY to enhance reconstruction methods
- Built interactive medical image viewing tools using Dash and Matplotlib, enabling exploration and analysis of neuroimaging data

Software Research Intern Jan 2024 – May 2024
Dawson College *Montreal, QC*

- Designed, built, and programmed a 3D-printed Boston Dynamics robot model in C++, implementing PID control and odometry to enable precise movement and accurate positioning for educational applications
- Developed makerspace resources to support students in building and programming robotics projects, fostering hands-on learning experiences
- Wrote a scientific report documenting the project and presented at the 2024 SALTISE Conference

PROJECTS

Formula Electric | *SolidWorks* September 2024 – Present

- Aerodynamics and chassis team

Aerial Robotics Group | *C++* September 2024 – Present

- Autonomy and embedded flight software team

FIRST Robotics | *Java, OnShape* June 2023 – March 2024

- Founder, captain, and programming lead
- Led award-winning team of CEGEP students in the world's largest robotics competition
- Designed, built, and programmed robots using professional hardware and software
- Developed PID control, odometry, and object-oriented programming algorithms

VEX Robotics | *C++, Fusion 360* June 2020 – May 2023

- Captain and programming lead
- Achieved top rankings and awards at regional, national, and international robotics competitions
- Developed position tracking algorithms using PID control, odometry, and encoder sensors

AI Launch Lab | *Python* Sep 2023 – Nov 2023

- Learned about AI and LLMs for practical applications
- Developed a diabetes detection model using deep learning algorithms

EDUCATION

University of Waterloo Waterloo, ON
Bachelor of Applied Science in Mechatronics Engineering *Sep. 2024 – Present*