

TRISTAN CHARPENTIER

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Bilingual: English/French | Nationalities: US/French

EDUCATION

Sorbonne Université

B.S. (license) in Computer Science - Ongoing

Sept 2018 – June 2023
Paris, FR

George Mason High School

International Baccalaureate - Higher level Comp Sci., Math, and Psychology

Sept 2014 – June 2018
Falls Church, VA, US

EXPERIENCE

Augmented Acoustics - Internship

iOS and infrastructure developer

June 2022 - August 2022
Paris, FR

- Designed and implemented the server infrastructure and iOS frontend for the video aspect of real-time video/audio streaming using GStreamer. Implemented in C and Swift.
- Achieved sub-100ms glass-to-glass latency for A/V synced livestreaming.

Robotics Club – FRC

Computer vision developer

Sept 2016 – June 2017
Falls Church, VA

- Developed a vision recognition system for an autonomous robot capable of shape recognition and autonomously finding a safe path with obstacle avoidance.
- Recognition: Participated in the State championship and advanced to the World Championships in St. Louis.

SKILLS

- Proficient with: **C++**, **Python**, **Bash**, **C**
- Experience with: **GStreamer**, **Swift**, **Rust**, Web Development (**JS** / **CSS** / **HTML**)
- Additional Background in: **GIS**, **FFMPEG**, **Linux sysadmin**, **PyTorch**
- Some experience with graphics programming: **Vulkan**, **OpenGL**, **Blender**, **OpenCV**

PROJECTS

KinectVisuals

C++, **OpenCV**, **GStreamer**, **html/css**

A real-time and procedural visualizer making use of the depth map stream from Kinect for Xbox 360 to **generate editable visuals**. Parameters can be controlled in real time from a web interface, xbox controller, or DJ mixing table. Software also reacts to music and streams in real-time to iPhone for VR.

beta.trido.fr

Python, **html/css**

A social media **static site generator and HTTP server** written only using Python's standard library. The entire website is **interactive** and **responsive** and uses no JS in the front or back.

TridoNN

Python, **PyTorch**, **FFMPEG**

A **personalized neural network** in PyTorch trained to predict how much I am likely to enjoy a song based on complete Spotify listening history and an audio classifier (gh.com/EfficientAT).

ImThirsty

Swift

An **iOS** application that displays the closest public restrooms and drinking water fountains using an **OSM API**.

RECOGNITION

Air Force Association Grant

May 2018

Received **\$1,000 grant** from the AFA to continue and improve the CyberPatriot program at George Mason High School **based on my team's performance** in the 2018 CyberPatriot competition