Tyler D Jones

Contact Information

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Work Experience

FFmpeg

Vorbis Encoder **Feb 2017 – August 2017**

Improved the encoding quality and speed of FFmpeg's native Vorbis encoder by redesigning major components and implementing a new psychoacoustic model.

- Built a custom psychacoustical model capable of detecting transient signals and dynamically switching encoding modes.
- Implemented noise normalization to generate a gaussian noise profile and rewrote residue encoding to minimize quantization error.
- Rewrote the stereo coupling to dynamically switch between various lossy and lossless modes.
- Added foundational support for arbitrary channel mappings.

Other Projects

Autonomous Drone

Built an autonomous drone from bare components and developed an off-machine flight controller.

- Utilized radio communication for transmitting flight directions and data between an embedded linux device and embedded microcontroller.
- Implemented custom PID controls to maintain flight stability using on-board sensor data.

Radio Com

Building an embedded device capable of interfacing with Linux devices and Android phones for communicating over radio.

- Utilizing LoRa modulation to communicate over 10km between devices.
- Developed an Android application with support for end-to-end encrypted communication.
- Writing linux drivers to support online-data requests from USB.

PetroMatch, Grand Junction, CO

Data Analyst, Backend Developer **Mar 2017**

Worked on a small team to utilize open-source data for oil and gas companies to fully utilize geographical, economic, and business license data.

- Built a custom ORDMS for PostGIS information suitable for web and mobile development
- Built an internal API for mapping data in different projections and formats

College Education

Colorado Mesa University, Grand Junction, CO

B.S., Computer Science GPA - 4.0 **Aug 2014 – May 2018**

Colorado School of Mines, Golden, CO

Chemical Engineering GPA - 3.83 **Aug 2015 – May 2016**

Received recognition for developing a simulation engine for municipal waste reactors that could be embedded within existing data work-flows for energy companies and researchers.

Programming Knowledge

Languages: C, C++, C#, Python
Architectures: ARM, AVR
Other Knowledge: Kernel Development, Embedded Linux, LoRa, USB 2.0