

Tyler D Jones

CONTACT INFORMATION

Phone: (970) 261-9425

Email: tdjones879@gmail.com

Github/Gitlab: [tjones879](#)

WORK EXPERIENCE

FFmpeg

Google Summer of Code Participant – 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 psychoacoustical 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

Project Armoire

Built a custom homework and test grader for computer science faculty at Colorado Mesa University. Students are able to submit assignments and receive feedback that mimics a TDD workflow.

- Utilized Docker and AppArmor to enable a safe and scalable infrastructure for code compilation and execution in sandboxed environments.
- Implemented cross-references between student submissions to measure similarity and probability of plagiarism.

Fake-News

Built a real-time multiplayer pong arena game for the web browser using Flask and websockets.

- Built a system capable of handling hundreds of concurrent games.
- Maintained game-state synchronization between an arbitrary number of game servers using Redis and MongoDB.
- Implemented custom latency correction logic and anti-cheat mechanisms to ensure game integrity.

re-mark

Built a website that allows users to annotate any page on the internet and store their own comments.

- Built a REST API in Go for managing user-supplied data in MongoDB.
- Utilized xxHash and gzip to cache external pages for users in a safe and memory efficient manner.
- Integrated Google's OAuth API for user authentication.

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.

TECHNICAL SKILLS

Languages: Python, Go, Javascript, C++, C

Web Technologies: Node, React, Flask

Data Science: Pandas, NumPy, Tensorflow, Torch, Scikit-learn

Other Knowledge: SQL (PostgreSQL, MySQL), MongoDB, PostGIS, Redis, Docker, AWS