

Contact

Santa Clara, California
linkedin@aguasonic.com

www.linkedin.com/in/aguasonic
(LinkedIn)

aguasonic.com (Portfolio)
freesound.org/people/aguasonic/
sounds/ (Other)
twitter.com/aguasonic (Blog)

Top Skills

Java

C

D

Languages

C (Full Professional)

Matlab (Full Professional)

D (Full Professional)

Certifications

Android Application Development

Honors-Awards

Altered Mind

Publications

Are Blainville's beaked whales echo-locating without a clock?

New passive acoustic monitoring in Monterey Bay National Marine Sanctuary: exploring natural and anthropogenic sounds in a deep soundscape

Temporal variations in humpback whale (*Megaptera novaeangliae*) song in Monterey Bay National Marine Sanctuary, northeast Pacific

Observations Concerning The Recordings Made Of the First Transit of Monterey Bay, California, By The Vessel CMA CGM /Benjamin Franklin/

Detecting the clicks of beaked whales with wavelets

Mark Fischer

Software Engineering
Santa Clara

Summary

C / D / Java / Kotlin / Matlab on Linux. Wavelets, CUDA, Parallel Processing.

Experience

Nissan Motor Corporation
Senior Software Engineer
October 2017 - Present (3 years 5 months)
Santa Clara, California, United States

Research in autonomous vehicles.

Aguasonic
Software / Artist
December 1999 - Present (21 years 3 months)
Santa Clara, California

Skillset includes: C / D / Java / Kotlin / Matlab on Linux. Java for RESTful Web Services using Spring Tool Suite / IntelliJ / Eclipse. Matlab { Parallel Processing, GPU Accelerated, Signal Processing and Wavelet toolboxes }.

Field recording and wavelet analysis of avian and cetacean acoustics. Design and implementation of real-time wavelet detection and classification schemes using 'wavelet profiles' for signals of interest. Design and implementation of custom wavelets.

Developed an automated 'click detector' specifically designed for the detection of odontocete clicks, and especially those of the Ziphiidae. Developed a novel way of demarcating avian vocalizations that does -not- use frequency or energy. Developed an automated classification methodology for those vocalizations. Wrote a 48-bit imaging library to support renderings made from this work.

Customers have included Nokomis, Inc., Monterey Bay Aquarium Research Institute, Applied Physical Sciences, Inc., Analysis, Design and Diagnostics, Inc., and Integrated Systems Solutions, Inc.

Patents

A Method And Apparatus For Profiling And Identifying The Source Of A Signal

A Method And Apparatus For Profiling And Identifying The Source Of A Signal

IBM Almaden Research Center

Software Engineer

November 2016 - June 2017 (8 months)

San José, California

Multimodal mining for clinical decision support in healthcare.

Monterey Bay Aquarium Research Institute (MBARI)

Consultant

June 2016 - August 2016 (3 months)

Moss Landing, California

Designed and developed parallel processing cetacean acoustics classification software using Matlab, Java 8 and HTCondor on Ubuntu. Functionality could process thousands of 500MB files looking for particular events { designed to handle 23TB per year }. Proof-of-concept client/server classifier in Java could classify 20 million detections per hour on a desktop PC. Contributed to the paper “New Passive Acoustic Monitoring in Monterey Bay National Marine Sanctuary” presented at IEEE Oceans ‘16” conference in Monterey, California.

Education

George Mason University

Bachelor of Science - BS, Electronics and Computer Engineering