

Sinchai Tsao PhD

Experienced Computational Scientist / Engineer



CONTACT

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linkedin://sinchaittsao

Programming Skills

C++, JAVA, Javascript,
.Net, MATLAB,
OpenMP, SQL, ITK,
VTK, HTML5, CSS,
PHP, jQuery

Technical Skills

High Performance
Cluster Administration,
Computer Networking,
Linux (CentOS, Ubuntu)

Languages

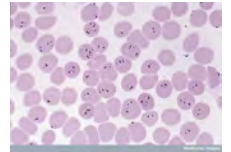
english mother tongue
chinese cantonese
chinese mandarin
thai (spoken only)
japanese
(conversational)

experience

2015-2016 Intellectual Ventures Labs - Global Good

- Automated Microscopy for Detection of Malaria in Thin and Thick Blood Smears using Machine Learning
- Low-Cost Computer Aided Ultrasound for Low Resource Settings

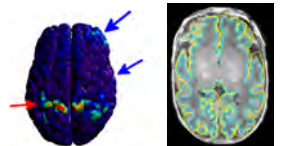
Intellectual Ventures Labs



2013-2015 Biomedical Image Computing Group

- C++ Software Development using openMP for parallelization on dedicated HPCC for Numerical Analysis of MRI images
- Developed Novel Algorithm for Neonatal Cortical Surface Reconstruction

University of Washington



2012-2013 Computational Imaging of Brain Organization Group

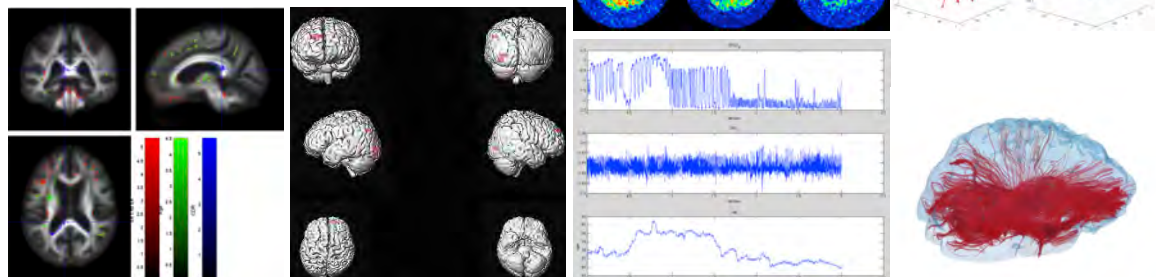
- Developed and Tested a Predictive Model of Alzheimers Disease at 6,12,18, 24 and 36 months from baseline using 600 of MRIs and other clinical data using MATLAB and custom C++ libraries

Children's Hospital LA

2008-2013 Biomedical Imaging Laboratory

University of Southern California

- Developed Diffusion MRI techniques in analyzing changes in Brain Connectivity in Alzheimer Disease and Dementia in Large Scale Datasets
- Applied fMRI techniques to study Brain Reward Center changes in Young Obese Children
- Contributed to MR Brain Study to compare Contact and non-Contact Sport Athletes
- Built Diffusion MRI Phantom
- Conducted Hands-on Experimental Human Studies using a Research MR System
- Performed Data Analysis using MATLAB
- Certified Training on a MRI-compatible EEG system
- Developed and Tested MR-based Cerebrovascular Reactivity using ASL & CO₂



2009-2011 **Iridescent Learning**
A 501(c)3 Science and Engineering Outreach Non-Profit

Los Angeles, California

- Developed Hands-on Curricula with USC undergrad engineers for Inner City Middle School Children and their parents
- Traveled to NYC to launch East Coast Site
- Coordinated Launch Days in LA and NYC
- Worked with sponsors and donors
- Developed bar code membership scanning system and integration with Salesforce to track impact and attendance

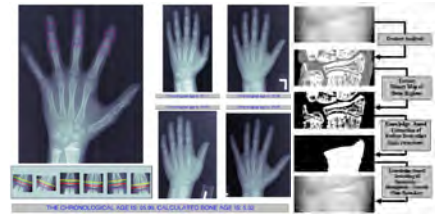
iridescent



2006-2008 **Image Processing and Informatics Lab**

University of Southern California

- Applied Computer Vision Algorithms for use in Automatic Bone Age Assessment of Children for Diagnosis of Skeletal Development Delays
- Developed SMS-based remote communication systems with Medical Image Archives
- Built System for Natural Language Processing and Classification of Radiology Reports using Radiological Lexicon



education

2015 **Postdoctoral Training, Biomedical Image Computing Group** University of Washington
Cortical Surface Reconstruction and Analysis based on Neonatal MRIs

2013 **Doctor of Philosophy in Biomedical Engineering** University of Southern California
MR Physics, Image Analysis, Statistics and Machine Learning

Master of Science in Electrical Engineering University of Southern California
Signal and Image Processing

2004 **Bachelor of Science in Biophysics**
Bachelor of Arts in International Relations Brown University
Combined ScB/AB Program

Peer-Reviewer

Organization for Human Brain Mapping, International Symposium on Biomedical Imaging, IEEE transactions on Biomedical Engineering, IEEE transactions on Medical Imaging, Medical Image Analysis