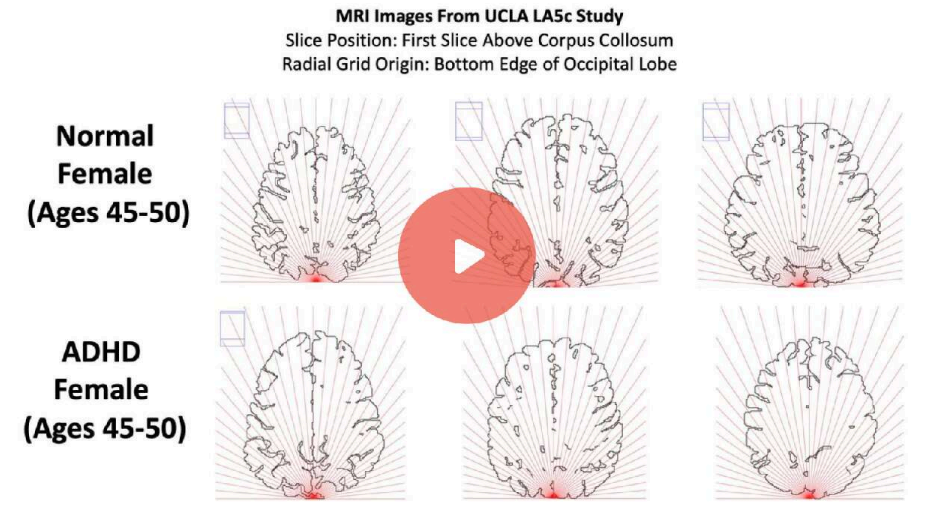
INVEST IN **BRAINSCANOLOGY, INC**

Shape-analysis software to guide surgical and diagnostic decisions

PITCH VIDEO INVESTOR PANEL



brainscanology.com San Francisco CA

Female Founder | Technology | Healthcare | Biotech | B2B

Highlights

1. Our service will be in high demand for hospitals (not guaranteed). Detecting disease early saves lives.
2. Our algorithm works for every organ and multiple diseases in each organ.
3. Our algorithms work on images from ultrasound/X-rays/CTs/MRIs. Low-resolution is not a problem.
4. Our algorithm works on images of your hands/feet/eyes taken from a smartphone.
5. We will revolutionize the measurement of cell shapes for the drug discovery industry.

Our Team

Dave Nguyen Co-Founder & CEO

Computational biologist who invented the LCPC Transform that measures shapes -- even weird ones -- without using area or volume. BA & PhD from UC Berkeley. Lab: www.TSG-Lab.org

A college friend of David Nguyen (co-founder) suffered from bipolar disorder. His name was Thuan and he took his own life 8 years after college. David developed pattern recognition algorithms to diagnose cancer, but realized that they would also work on MRIs of brains, bones, and other organs. BrainScanology was thus started in honor of Thuan.

Harini Kumar Co-Founder & COO

MBA from UC Davis. Cognitive Science major at UC Santa Cruz. Data scientist.

William Jagust Advisor

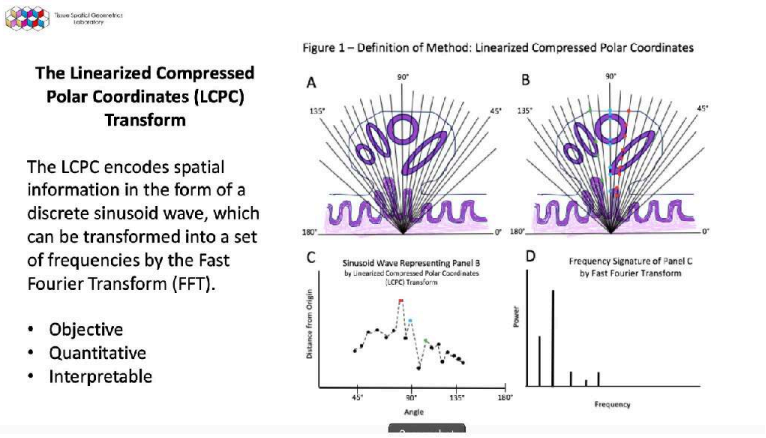
World-renowned expert on Alzheimer's and dementia. A UC Berkeley neuroscience professor.

Amarpreet Singh Advisor

Psychiatry professor at Tuoro University who specializes in schizophrenia and bipolar disorder. Associate Director of Residency Training at California Department of State Hospitals.

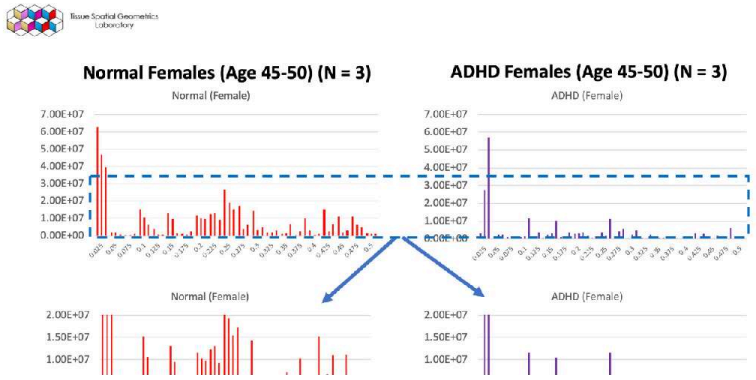
The Story of BrainScanology

The idea stared in 2018 when Dr. Dave Nguyen, PhD, invented a computational algorithm to measure the complex shapes of colon polyps. His favorite high school science teacher, Mr. Nichols, had just died of colon cancer, so Dr. Nguyen invented a method for classify complex shapes in biology to commemorate him. He named the method Linearized Compressed Polar Coordinate (LCPC) Transform.



We realized this worked on brain scans of ADHD patients.

In 2019, Dr. Nguyen participated in the QBI Hackathon at the University of California-San Francisco. He was able to extract quantitatively different signatures of brain MRIs of patients with ADHD compared to their non-affected counterparts. This began our MRI exploration of various neurological, orthopedic, and eye disorders.



The Problems Facing Surgeons, Radiologists, and Psychiatrists

- No objective method to guide clinical decisions about which surgical procedure to use or how to diagnose a patient.

- No objective method that helps clinical decisions even when the clinician is mentally and emotionally exhausted.

- No rapid, low-cost method to for annual tracking of organ shape changes.

The Problems Facing Health Providers

- Treating brain disorders costs more than prevention.

- Repeat surgeries due to suboptimal first-surgeries are costly.

- The imaging & diagnostic pipeline is fragmented.
- Long diagnostic wait times delay treatment plans.

How Does BrainScanology Solve These Problems?

- Measure shapes that Deep Learning (artificial intelligence) cannot.
- Create machine learning models specifically for each disease in ways that Deep Learning (artificial intelligence) cannot.
- 40x shorter diagnostic times.
- Annual tracking of disease progression (for some diseases, like rheumatoid arthritis, can be tracked with a smartphone camera).
- Reduce diagnostic uncertainty.

Who Will Benefit?

- Radiologists, surgeons, and psychiatrists who get tired by the end of the day but still need to be accurate.

- The patients of the above mentioned clinicians.

- Healthcare providers who will save a lot of money.

- Drug discovery companies who get more insight from the response of their cells to new treatments.

How Will We Make Money?

- Our shape-analysis software, called ShapeGenie, will be offered as a monthly subscription SaaS product. We will have three tiers of subscription pricing to accommodate subscribers ranging from individuals to hospitals to pharma corporations. When used for purely research purposes, it does not require FDA approval before we sell it.

- We will also offer consulting services alongside access to ShapeGenie. Companies will hire us to extract shape features and build predictive machine learning models for their research question (like "Why doesn't this group of patients respond to our drug?").

- Regarding our diagnostic machine learnings models, such as for Alzheimer's

Disease: after FDA approval we will sell our services at a discount to health providers (our customers), such as Kaiser and Anthem Blue Cross / Shield. They sell our services at a marked-up price to their patients (the end-users).

The Deeper Story of BrainScanology

In 2013, one of Dr. Nguyen's good friends from college took his own life because of bipolar disorder. His name was Thuan Trinh. At Thuan's funeral, Dr. Nguyen promised that he would do something about bipolar disorder one day. At the time, Dr. Nguyen was studying cancer biology, so he didn't know what that promise would even look like. However, in 2018 when the LCPC Transform was created -- six years after wandering away from cancer biology and into computational biology -- and Dr. Nguyen realized exactly what his promise to Thuan would be like: BrainScanology ...

Downloads

BrainScanology - Deck General Public Dec1st-2020.pdf

Poster Bipolar Disorder Tran et al 04-14-2021.pdf

Report cerebellar peduncles in BD SCZ 05-03-21.pdf