Ashwin Sakhare

Neuroengineer

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Personal Profile

Neuroengineer with an extensive background in clinical research, a passion for problem solving and innovation in healthcare and expertise in brain imaging, virtual reality, game development, and data science.

Education

University of Southern California **May 2017 – Present**
PhD, Biomedical Engineering *Los Angeles, CA*

University of Southern California **Aug. 2015 – May 2017**
M.S., Biomedical Engineering *Los Angeles, CA*

North Carolina State University **Aug. 2005 – Dec. 2009**
B.S, Biomedical Engineering *Raleigh, NC*

Work Experience

Stevens Neuroimaging and Informatics Institute **May 2017 – Present**
PhD Student *Los Angeles, CA*

- Validated the reliability of an MRI sequence to be used as a biomarker for brain health.
- Developed a novel, immersive virtual reality game to remediate cognitive decline in older adults at risk for Alzheimer's disease.
- Managed a team of 8 graduate and undergraduate students across 4 disciplines.
- Designed and manufactured a stationary exercise bike for older adults.

Cell Mechanics Research Laboratory **Nov. 2008 – Dec. 2009**
Research Assistant *Raleigh, NC*

- Developed a clamping mechanism to affix cell scaffolds in a bioreactor, allowing for the study of cells under cyclical tensile loads.

Electro-Mechanics Research Laboratory **Aug. 2007 – Dec. 2009**
Research Assistant *Raleigh, NC*

- Enhanced the design of a Kerrison Rongeur, a surgical tool used during Laminectomies, to allow for the secure collection of bone chips, reducing procedural times and improving patient outcomes.

Cook Medical **May 2008 – Aug. 2008**
R&D Engineer Intern *Winston-Salem, NC*

- Developed a novel locking mechanism to prevent premature deployment of a tissue anchor from a tissue fixation device during endoscopic procedures, reducing procedural times and the risk of contamination.

LipoScience **July 2011 – June 2015**
R&D Engineer Intern *Winston-Salem, NC*

- Managed design changes to Vantera, an FDA-cleared clinical blood analyzer, comprised of computer, motor, and fluidics delivery subsystems.
- Provided remote and on-site second level support to field service engineers to troubleshoot device failures.
- Used SolidWorks, machining, and rapid prototyping to quickly implement fixes, reducing downtime and maintaining high sample throughput.

Patents

Sakhare, Ashwin. Surti, Vihar. 2010. Stylet Locking Mechanism for Medical Delivery Devices. U.S. Patent US20100168792 A1, filed December 30, 2008, and issued July 1, 2010.
July 2009. (Poster)

Publications

Sakhare, AR; Barisano G., Pa J., *Assessing test-retest reliability of phase contrast MRI for measuring cerebrospinal and cerebral blood flow dynamics*. Magn Reson Med. 2019; 82:658–670.

Sakhare, AR; Yang V., Stradford J., Tsang I., Ravichandran R., Pa J., *Cycling and Spatial Navigation in an Enriched, Immersive 3D Virtual Park Environment: A Feasibility Study in Younger and Older Adults*. Front. Aging Neurosci. 2019; 218.

Core Skills

- VR Development (Unity3D)
- Neuroimaging Analysis
- Data Scraping, Cleaning, Manipulation, Visualization
- 3D Design (SolidWorks)
- Version Control (Perforce, Git)

Programming Skills

- C#
- Python
- SQL