

# Ashwin Sakhare

## Neuroengineer

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### Personal Profile

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**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

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<b>University of Southern California</b> <i>PhD, Biomedical Engineering</i>	<b>May 2017 – Present</b> <i>Los Angeles, CA</i>
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<b>University of Southern California</b> <i>M.S., Biomedical Engineering</i>	<b>Aug. 2015 – May 2017</b> <i>Los Angeles, CA</i>
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<b>North Carolina State University</b> <i>B.S., Biomedical Engineering</i>	<b>Aug. 2005 – Dec. 2009</b> <i>Raleigh, NC</i>
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### Work Experience

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<b>Stevens Neuroimaging and Informatics Institute</b> <i>PhD Student</i>	<b>May 2017 – Present</b> <i>Los Angeles, CA</i>
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- 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.

<b>Cell Mechanics Research Laboratory</b> <i>Research Assistant</i>	<b>Nov. 2008 – Dec. 2009</b> <i>Raleigh, NC</i>
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- Developed a clamping mechanism to affix cell scaffolds in a bioreactor, allowing for the study of cells under cyclical tensile loads.

<b>Electro-Mechanics Research Laboratory</b> <i>Research Assistant</i>	<b>Aug. 2007 – Dec. 2009</b> <i>Raleigh, NC</i>
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- 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.

<b>Cook Medical</b> <i>R&amp;D Engineer Intern</i>	<b>May 2008 – Aug. 2008</b> <i>Winston-Salem, NC</i>
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- 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.

<b>LipoScience</b> <i>R&amp;D Engineer Intern</i>	<b>July 2011 – June 2015</b> <i>Winston-Salem, NC</i>
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- 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

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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

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**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

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

### Programming Skills

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C#	●●●●●
Python	●●●●●
SQL	●●●●●