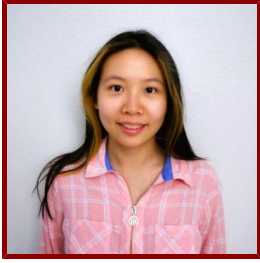


# Stanford

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## Yuheng (Rene) Cai

Postdoctoral Scholar, Otolaryngology - Head & Neck Surgery

### Bio

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#### BIO

Dr. Yuheng Cai graduated from Shanghai Jiao Tong University with a bachelor's degree in Biomedical Engineering in Shanghai, China. She then received a master's degree in Biomedical Research from Imperial College London in London, UK, with a concentration in Data Science. She received her PhD in Biomedical Engineering at University of North Carolina at Chapel Hill and North Carolina State University.

#### HONORS AND AWARDS

- Young Scholar Award, Comparative Medicine Institute, North Carolina State University (2022, 2023)
- Travel Award, Joint Department of Biomedical Engineering, North Carolina State University (2023)

#### PROFESSIONAL EDUCATION

- Bachelor of Engineering, Shanghai Jiaotong University (2017)
- Master of Science, Imperial College of London (2018)
- Doctor of Philosophy, University of North Carolina, Chapel Hill (2024)
- Doctor of Philosophy, North Carolina State Univ At Raleigh (2024)

#### STANFORD ADVISORS

- Alan Cheng, Postdoctoral Faculty Sponsor

### Research & Scholarship

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#### LAB AFFILIATIONS

- Alan Cheng (6/24/2024)

### Publications

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#### PUBLICATIONS

- **Spiner, deep learning-based automated detection of spiral ganglion neurons in intact cochleae.** *iScience*  
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- **Intelligent Beam Optimization for Light-Sheet Fluorescence Microscopy through Deep Learning.** *Intelligent computing (Washington, D.C.)*  
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- **COMBINE enables automated detection and classification of neurons and astrocytes in tissue-cleared mouse brains.** *Cell reports methods*

- Cai, Y., Zhang, X., Li, C., Ghashghaei, H. T., Greenbaum, A.  
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- **Tissue clearing and three-dimensional imaging of the whole cochlea and vestibular system from multiple large-animal models.** *STAR protocols*  
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  - **Maternal organophosphate flame retardant exposure alters the developing mesencephalic dopamine system in fetal rat.** *Toxicological sciences : an official journal of the Society of Toxicology*  
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  - **Ontogeny of cellular organization and LGR5 expression in porcine cochlea revealed using tissue clearing and 3D imaging.** *iScience*  
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  - **Automated Annotation of Untargeted All-Ion Fragmentation LC-MS Metabolomics Data with MetaboAnnotator.** *Analytical chemistry*  
Graça, G., Cai, Y., Lau, C. E., Vorkas, P. A., Lewis, M. R., Want, E. J., Herrington, D., Ebbels, T. M.  
2022; 94 (8): 3446-3455
  - **Detection and classification of neurons and glial cells in the MADM mouse brain using RetinaNet.** *PloS one*  
Cai, Y., Zhang, X., Kovalsky, S. Z., Ghashghaei, H. T., Greenbaum, A.  
2021; 16 (9): e0257426
  - **Three-dimensional imaging of intact porcine cochlea using tissue clearing and custom-built light-sheet microscopy.** *Biomedical optics express*  
Moatti, A., Cai, Y., Li, C., Sattler, T., Edwards, L., Piedrahita, J., Ligler, F. S., Greenbaum, A.  
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