

# Yinan “Tom” Xuan

<https://www.yinanxuan.com>

## Education

*University of California, San Diego*  
Ph.D. in Electronic Engineering  
Expected Graduation: 06/2024

*La Jolla, CA*  
07/2020 - Present

M.S. in Biological Science  
Thesis Topic: *Drosophila* Gut Imaging Data Collection and Analysis

09/2017 - 06/2020

B.S. in Physiology & Neuroscience  
Minor: Cognitive Science

09/2013 - 06/2017  
GPA: 3.89

## Research Experience

*University of California, San Diego*  
*Electrical and Computer Engineering Department, Jacobs School of Engineering*  
*Wang Lab*

*La Jolla, CA*

Graduate Student Researcher

10/2019~Present

- Designed and implemented a prototype of a Unity based exercising game on Vuzix **AR** glasses, using **processed signals from gyroscope and accelerometer** as input
- Exploring body temperature measurement integrated in a **mobile healthcare** profiling application on Vuzix **AR** glasses.

*University of California, San Diego*  
*Section of Neurobiology, Division of Biological Sciences*  
*Wang Lab*

*La Jolla, CA*

Graduate Student Researcher

04/2018~06/2020

- Designed, implemented and deployed an **olfaction VR device** as a novel instrument to observe odor guided behaviors among *Drosophila*
- Designed, implemented and deployed **image processing software** to facilitate bio-imaging data analysis pipeline to profile intestinal cells' response to different nutrients
- Devised an automated solenoid valve **control system** for perfusion experiments that can independently control up to 22 valves.
- Collaborated in building and testing a customized three-photon **calcium imaging microscope**
- Built a **feedback controlled** temperature based anesthetic platform to facilitate surgery process on *Drosophila*
- Co-authored 3 works-in-progress in science and engineering venues

*University of California, San Diego*  
*Division of Otolaryngology-Head and Neck Surgery, Department of Surgery*  
*Ongkeko Lab*

*La Jolla, CA*

# Yinan Xuan

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Undergraduate Researcher

09/2013~06/2017

- Studied the role of long non-coding RNAs in head and neck squamous cell cancer
- Designing and conducted in vitro experiments in many projects
- Co-authored 3 published peer-reviewed articles

**AskGene Pharmaceutical Inc.**

**Camarillo, CA**

Research Internship

06/2016~08/2016

- Collaborated in cell line development selecting clone cells with the highest titer
- Purified recombinant antibodies using Protein-A Affinity Chromatography

## Programming

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- Machine Learning (3 years)
- Computer Vision / Image Processing (2 years)
- Python programming (4 years)
- Matlab programming (4 years)
- C++ programming (1 year)
- C# language programming (1 year)
- Basic Java language programming
- Android Development
- iOS Development

## Technical Skills

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- Data Analysis via Python and Matlab
- Microcontroller Programming
- Printed Circuit Board (PCB) Design
- Signal Processing
- Graphical User Interface (GUI) Programming
- Unity Game Programming
- Free-space Optics

## Publications

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Yu, Vicky, Mehran Rahimy, Avinaash Korrapati, **Yinan Xuan**, Angela E. Zou, Aswini R. Krishnan, Tzuhan Tsui, Joseph A. Aguilera, Sunil Advani, Laura E. Crotty Alexander, Kevin T. Brumund, Jessica Wang-Rodriguez, and Weg M. Ongkeko. "Electronic Cigarettes Induce DNA Strand Breaks and Cell Death Independently of Nicotine in Cell Lines." *Oral Oncology* 52 (2016): 58-65. Web.

Zou, Angela E., Jonjei Ku, Thomas K. Honda, Vicky Yu, Selena Z. Kuo, Hao Zheng, **Yinan Xuan**, Maarouf A. Saad, Andrew Hinton, Kevin T. Brumund, Jonathan H. Lin, Jessica Wang-Rodriguez, and Weg M. Ongkeko. "Transcriptome Sequencing Uncovers Novel Long Noncoding and Small Nucleolar RNAs Dysregulated in Head and Neck Squamous Cell Carcinoma." *Rna* 21.6 (2015): 1122-134. Web.

Zou, Angela E., Hao Zheng, Maarouf A. Saad, Mehran Rahimy, Jonjei Ku, Selena Z. Kuo, Thomas K. Honda, Jessica Wang-Rodriguez, **Yinan Xuan**, Avinaash Korrapati, Vicky Yu, Pranav Singh, Jennifer R. Grandis, Charles C. King, Scott

## Yinan Xuan

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M. Lippman, Xiao Qi Wang, Andrew Hinton, and Weg M. Ongkeko. "The Non-coding Landscape of Head and Neck Squamous Cell Carcinoma." *Oncotarget* (2016): n. pag. Web.

## Membership & Honors

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- Member of Phi Beta Kappa Honor Society 05/2017
- Member of Muir College's Senior Honors Caledonian Society 01/2015
  - Achieve Senior standing with at least a cumulative GPA of 3.8