

## Ana Gu

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### EDUCATION

#### University of California, Los Angeles

Expected Graduation Date: June 2022

#### Bachelor of Science, Biomedical Engineering

Relevant Coursework: Data Structures, Multivariable Calculus, Electrical Circuitry, Physics: Electricity and Magnetism, Discrete Mathematics, Linear Algebra

### Experience

#### Microfluidics Biotechnology (UCLA Department of Bioengineering)

##### Undergraduate Researcher

June 2019 - Current

- Researched particle encapsulation using microfluidics under Dr. Dino di Carlo.
- Performed digital assays assessing viable microparticles using fluorescent microscopy.
- Quantified droplet generation size by data visualization using MATLAB and ImageJ.

#### Caltech/ California Institute of Regenerative Medicine (CIRM)

##### Researcher

June 2017- Aug 2017

- Researched fruit fly embryogenesis under Professor Angelike Stathopoulos full-time.
- Investigated in morphogen Dorsal by fixing embryos in nuclear cycle 13 using antibody staining and fluorescent microscopy.
- Tested Dorsal nuclear translocation by crossing various knock-out mutant backgrounds using in-vitro/in-vivo methods.
- Cultured and monitored iPSCs(induced Pluripotent Stem Cell) using cryopreservation and microscopy.

#### Pediatrics of Chino Hills

##### Medical Assistant

Sept 2017- May 2018

- Interacted one-on-one with patients and shadowed under Dr. Hua Bai during medical diagnosis and examination.
- Monitored supply inventory and catalogued equipment maintenance.
- Translator and receptionist for the clinic.

#### California Scholarship Federation

##### AP/Honor Tutor

Aug 2016- May 2018

- Tutored high schoolers variety of subjects such as biology, calculus, and chemistry in group and one-on-one setting.
- Assessed reading comprehension by formulating weekly quizzes and tests for students in Academic Decathlon.

### Conferences

#### CIRM Summer Program to Accelerate Regenerative Medicine Knowledge (SPARK)

- Gu, A., McGehee J., Stathopoulos A. et al (2017, August) *Assaying the Dorsal gradient in various mutant backgrounds*. Oral and visual communication of abstract and poster presentation.
- Received one of ten CIRM Fellow awards out of one hundred applicants.

### Projects

#### Temperature Controlled Arthritis Knee-Brace

Current

- Designed app functionalities of letting users choose desired temperature for heating and cooling.
- Integrated calendar settings to let users track pain levels and other usage data.
- Monitored temperature of brace using PID controlled relay sensors with C and Arduino Bluetooth module.

#### Electrocardiogram

- Designed and printed PCB using Eagle and Voltera.
- 3D printed portable carrier for EKG using AutoCAD.
- Reduced noise of voltage signal and isolated signal spikes using Processing IDE.

#### Arduino-based Motorized Vehicle

- Programmed and built PID-controlled line-following car using Texas Instrument LaunchPad.
- Implemented Bluetooth module such that the vehicle will turn and adjust its speed according to remote-controlled accelerometer.

### Price Monitoring utilizing Web-Crawler Scrapy

- Gathered retail price of products from different sites such as Amazon, Alibaba, and various retail stores using Scrapy, a python based web crawler. Stored extracted data as a CSV file.
- Programmed such that if a price of a certain product is below threshold, the program will send an email to the user.

### Leadership

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#### ACM-ICPC, Board

November 2019 – Current

- Coordinated and help planned Code-Sprint LA, a algorithm based competition in preparation for ICPC in the fall.
- Taught quarter long workshops under beginner track teaching algorithms in C++.

#### MentorSEAS, Mentor

May 2019 - Current

- Helped incoming freshmen familiarize themselves with UCLA culture and environment.
- Coordinated meet-up times for schedule planning, career advice and mental health awareness.

#### California Scholarship Federation, Historian/Public Relations

Aug 2016 - June 2018

- Assisted members applying to scholarship opportunities and internships.
- Communicated with prospective and current members through social media.
- Coordinated volunteering events and totaled hours of participation from members.

#### Academic Decathlon, Captain

Aug 2016 - June 2018

- Organized weekly meetings and wrote materials tested on team members.
- Raised over \$3,000 needed to compete by negotiating with school board and fundraising.

### Additional Skills

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- Software: Proficient in Image. Familiar with C++, Python, HTML, CSS, and Git.
- Language: Fluent Mandarin (reading, writing, speaking).
- Laboratory: Pipetting, Antibody Staining, Florescent Microscopy, Gel Electrophoresis, Cell Culture, Passaging, Medium Preparation, PCR, LAMP (Loop-mediated Isothermal Amplification),