

# David D. Chen



## EDUCATION

**University of Washington**  
**School of Medicine – Alaska WWAMI**  
*Graduating 2025*  
Medical Degree (M.D.)

**Duke University**  
**Trinity College of Arts & Sciences**  
*Grad. 05/2021*  
Biology (B.S.), Computer Science (B.A.)

## TECHNICAL SKILLS

### Laboratory Skills

- Extensive experience with developmental biology and molecular biology techniques
- Computational biology data analysis

### Language Proficiency

- Fluent in English and Mandarin Chinese.
- Experienced in multiple computer programming languages.

### Specialized Skills

- Web application development
- Machine learning algorithm development

## RESEARCH EXPERIENCE

**Graduate Researcher** 06/2022 – Present  
*Herbold Computational Biology Program, Fred Hutchinson Cancer Center*  
*Contact: Dr. Gavin Ha*

- Currently analyzing transcription factor binding sites as a predictor for chemotherapy treatment outcomes in metastatic castration-resistant prostate cancer

**Undergraduate Researcher** 09/2017 – 05/2021  
*Department of Biology, Duke University*

- Worked with PI and graduate supervisor to develop and implement research questions
- Utilized project-specific protocols for worm culturing, siRNA Knockouts, CRISPR-Cas9, plasmid preparation, protein immunofluorescence, and microscopy

*Contact: Dr. David Sherwood*

**Undergraduate Researcher** 05/2018 – 10/2019  
*Department of Global Health, Duke University*

- Collaborated on a team with international partners to coordinate field sampling visits to poultry farms, swine abattoirs, and kindergartens
- Collected bioaerosol samples and utilized RNA/DNA extraction and qPCR assays for genetic and statistical analysis

*Contact: Dr. Gregory Gray*

**Summer Research Intern** 06/2019 – 08/2019  
*National Institute of Biological Sciences, Beijing*

- Deliberated in strategies for using cell proptosis and innate immunity to develop novel methods for improving the effectiveness of immunotherapy drugs
- Utilized mammalian cell culturing, mice handling, Western blots, flow cytometry (FACS), and protein modeling using computer software

Contact: Dr. Feng Shao

### **Undergraduate Researcher**

06/2016 – 05/2018

*Department of Biology, University of Alaska Fairbanks*

- Designed data collection procedures for collecting avian fecal samples and molecular analysis
- Implemented project-specific protocols for extracting RNA from 'dirty' samples, PCR, library prep, and Next Generation Sequencing

Contact: Dr. Jack Chen

## **WORK EXPERIENCE**

### **Software Engineer (Part-time)**

05/2020 – Present

*EZTrain LLC, Durham, NC*

- Part of a Duke University startup that was awarded a Phase I Small Business Technology Transfer (STTR) grant in 2021.
- Responsible for ongoing development and deployment of a web application designed to monitor and record trainee progress in tasks and event participation.
- Implemented a combination of advanced algorithmic data analysis and user-friendly tracking systems to aid the U.S. Air Force Reserve and Emergency Medical Services (EMS) divisions nationwide.
- Visit the website: <https://www.goeztrain.com/>

### **Data Management Intern**

06/2020 – 08/2020

*Regeneron Pharmaceuticals Inc., New York, NY*

- Collaborated with program managers and researchers to design a platform for visualizing the development status and specifics of antidrug (anti-idiotypic) antibodies.
- Developed and managed automated workflows for a novel Next Generation Sequencing (NGS)-Hybridoma process in antidrug development.
- Authored a Python program leveraging Smartsheet's API for the aggregation of critical data from diverse sources, significantly enhancing the efficiency of data analysis for key medical reagents, including anti-idiotypic antibodies, vital to Regeneron's COVID-19 antibody cocktail.

## **OTHER EXPERIENCE**

### **Technical Officer**

02/2022 – Present

*Medical Student Association (MSA), University of Washington*

- Responsible for the development and upkeep of the University of Washington School of Medicine student website, offering educational resources and study materials for students.
- Visit the website: <https://www.uwsomdawgs.com/>

### **Student Chair**

09/2021 – 09/2022

*Medical Student Technology Advisory Team (medSTAT), University of Washington*

- Facilitated coordination between students and school staff, overseeing projects to enhance student access to educational resources.

### **Website Logo Design**

04/2022 – 05/2022

*Office of Healthcare Equity, University of Washington*

- Commissioned to create the logo for the UWSOM BIPOC Physicians Directory.
- Explore the directory: <https://depts.washington.edu/hcequity/bipoc-physician-directory/>

### Teaching Assistant

12/2019 – 05/2021

*Department of Computer Science, Duke University*

- Held discussion sections on topics related to database systems (design, SQL, XML, optimization, etc.). Provide weekly office hours for students to ask questions. Graded assignments and exams

### Resident Assistant

08/2019 – 05/2021

*Housing and Residence Life, Duke University*

- Served a leadership role overseeing students in a college dormitory, developing events, and relaying information regularly. Worked in a team setting with other RAs and Duke administration to coordinate campus/neighborhood-wide events

### Hospital Volunteer

08/2019 – 03/2020

*Duke Adult Bone Marrow Transplant Clinic*

- Volunteered biweekly at an outpatient bone marrow transplant clinic
- Worked with mostly elderly patients to provide quality-of-life amenities and hospitality services which included restocking supplies, working a snack cart, and performing card magic for patients

### Clinical Study Volunteer

06/2018 – 08/2018

*Sibu Hospital, Sibu, Malaysia*

- Assisted with a clinical study evaluating a new assay for detecting dengue, chikungunya, and zika viruses.
- Duties included monitoring patients for qualifying symptoms, managing sample collection supplies, and transporting samples to the lab.
- Contributed to translating and explaining consent forms from English to Chinese for patient understanding.

### Teaching Volunteer

10/2018 – 10/2019

*Duke Splash Club, Duke University*

- Taught bi-annual two-day classes to local middle and high school students on diverse subjects such as card magic, computer programming, and college application strategies.

## PUBLICATIONS & GRANTS

1. *(In-Progress)* Development of prediction signature incorporating various transcription factors with prostate-specific antigen (PSA) response in docetaxel / cabazitaxel treated prostate cancer
2. Cell-Free DNA Accurately Distinguish Visceral Metastases Based on Transcription Factor Binding Sites in Radium-223-Treated Metastatic Castration-Resistant Prostate Cancer. *Journal of Investigative Medicine*. 2023;71(1):NP1-NP702. doi:10.1177/10815589221142328
3. 2022 IT in Academic Medicine Digital Demonstration Virtual Conference. An Automated Solution Linking Step 1 Learning Objectives with Commercial Study Tools.
4. **Chen, DD**; Hastie, E; Sherwood, DR (2019). Endogenous expression of UNC-59/Septin in *C. elegans*. *microPublication Biology*. [10.17912/micropub.biology.000200](https://doi.org/10.17912/micropub.biology.000200)
5. Bailey ES, Fieldhouse JK, Alarja NA, **Chen DD**, Kovalik GE, Zemke JN, Choi JY, Borkenhagen LK, Toh TH, Lee JSY, Chong KS, Gray GC. First Sequence of Influenza D Identified in Poultry Farm

Bioaerosols in Sarawak, Malaysia. *Tropical Diseases, Travel Medicine and Vaccines* 2020;6:5.  
[10.1186/s40794-020-0105-9](https://doi.org/10.1186/s40794-020-0105-9)

6. Duke Trinity College of Arts & Sciences, "Deans' Summer Research Fellowship", \$3000, 2020 – 2021
7. Research Blog of *C. elegans* basement membrane research. 03/04/2020.  
<https://researchblog.duke.edu/2020/03/04/squirmy-science/>