

# Colton Bauml

GRADUATE STUDENT CANDIDATE

Data Intensive Biology lab of the University of California, Davis

🗨 He/Him | ✉ ccbauml@ucdavis.edu | ☎ 0000-0002-5926-7792 | 🌐 ccbauml | 🌐 colton-bauml

*I am deeply engaged in bioinformatics and mentorship. I excitedly wrangle data, craft software, and create dynamic mentorship opportunities.*

## Research Interests

- Bioinformatically exploring the world of big, public data in new and interesting ways.
- Combining scientific domains to create a pleasant end-user experience.
- I have overcome many obstacles to be where I am today and I am just happy to be here.

## Education

### Doctor of Philosophy

UNIVERSITY OF CALIFORNIA, DAVIS

- Biochemistry, Molecular, Cellular, and Developmental Biology Graduate Group

California, USA

2020 - Present

### Bachelors of Arts & Science

CONCORDIA UNIVERSITY, ST. PAUL

- Biology, BS
- Chemistry, BA
- Honors in Research
- Minor in Mathematics
- Magna Cum Laude

Minnesota, USA

2014 - 2018

### Associate of Applied Science in Automotive Mechanics

HENNEPIN TECHNICAL COLLEGE

- Academic Excellence

Minnesota, USA

2008 - 2010

## Research Experience

### Graduate Research

UNIVERSITY OF CALIFORNIA, DAVIS

- Pangenomic and novel database curation for the sourmash software ecosystem
- Case vs control multiomic investigation of public data
- Image analysis and quantification pipeline for ectodermal derivatives specified in early development
- Professors for the Future (PFTF) Fellow
- NIH Molecular Cell Biology T32 Fellowship Affiliate
- NIH Initiative for Maximizing Student Development (IMSD) Affiliate

Davis - California

2020 - Present

### Junior Research Specialist

UNIVERSITY OF CALIFORNIA, DAVIS

- Molecular evolution of thermal tolerance in coral
- Knot theory topology of dsDNA in bacteriophage DNA packaging

Davis - California

2019 - 2020

### Undergraduate Research

CONCORDIA UNIVERSITY, ST. PAUL

- Novel artificial culture vessel for shell-less chick development

St. Paul - Minnesota

2017 - 2019

### Tutor

CONCORDIA UNIVERSITY, ST. PAUL

- In subjects of Calculus, Physics, Chemistry, and Biology

St. Paul - Minnesota

2016 - 2018

## Professional Service

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### Scholarly Literature Workshop Author and Lead instructor

DATALAB

University of California, Davis

2024 - Present

### Gene Regulatory Networks for Development Teaching Assistant

MARINE BIOLOGY LABORATORY

University of Chicago

- 2024

### Admissions Committee Member

PREP@UCD

University of California, Davis

2023 - Present

### Recruitment Colloquium Mentor

BMCDB GRADUATE GROUP

University of California, Davis

2020 - 2024

### Biology Graduate Admissions Pathways Mentor

BioGAP

University of California, Davis

2020 - 2021

### NSF GRFP Grant Writing Working Group Creator and Lead Instructor

ROGERS LAB

University of California, Davis

2020 - 2021

## Community Involvement

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### AISES Rocketry Team Founding Co-Mentor

LETTS LAB

University of California, Davis

2021 - 2023

### Grad & Post Doc UCD SACNAS Chapter Founding Board Member

COLLEGE OF BIOLOGICAL SCIENCES

University of California, Davis

2020 - 2021

### Young Scientist Program Volunteer

COLLEGE OF BIOLOGICAL SCIENCES

University of California, Davis

2019 - 2020

### 3D Printing Club Founder and President

MATH AND BIOLOGY DEPARTMENT

Concordia University, St. Paul

2017 - 2018

### Sexual Assault Victim Advocate

UNITED STATES AIR FORCE

Joint Base McGuire Dix Lakehurst

2012 - 2014

### Flight line Training Leader

UNITED STATES AIR FORCE

Joint Base McGuire Dix Lakehurst

2012 - 2014

### Physical Training Leader

UNITED STATES AIR FORCE

Joint Base McGuire Dix Lakehurst

2011 - 2014

### Leadership Mentor

UNITED STATES AIR FORCE

Sheppard Air Force Base

2010 - 2011

### Treasurer

STUDENT GOVERNMENT

Hennepin Technical College

2009 - 2010

### SkillsUSA participant

AUTOMOTIVE DEPARTMENT

Hennepin Technical College

2009 - 2010

## Funding and Grants

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### Graduate Research Fellowship Program (GRFP)

NATIONAL SCIENCE FOUNDATION

University of California, Davis

2021 - 2024

### Undergraduate Preparation Fellowship (UPF)

NATIONAL INSTITUTE OF HEALTH

University of California, Davis

2020 - 2021

### Postbaccalaureate Research Education Program (PREP)

NATIONAL INSTITUTE OF HEALTH

University of California, Davis

2019 - 2020

### Post 9/11 GI Bill

US DEPARTMENT OF VETERAN AFFAIRS

Concordia University, St. Paul

2014 - 2018

### Federal Pell Grant

US DEPARTMENT OF EDUCATION

Hennepin Technical College

2008 - 2010

## Honors and Awards

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### Professors for the Future

A COMPETITIVE, LEADERSHIP-DEVELOPMENT PROGRAM

University of California, Davis

May 2024

### College of Biological Science's Dean's Mentorship Award

IN RECOGNITION OF GRADUATE STUDENTS WHO HAVE EXCELLED IN THE MENTORSHIP OF UNDERGRADUATE STUDENTS

University of California, Davis

May 2022

### NSF Graduate Research Fellowship Program (GRFP) Award

University of California, Davis

March 2020

### NIH Undergraduate Preparation Fellowship (UPF) Award

University of California, Davis

March 2020

### NIH Postbaccalaureate Research Education Program (PREP) Award

University of California, Davis

May 2019

### Honors in Research

Concordia University, St. Paul

December 2018

### Paul W. Stor Biology Award

FOR EXCELLENCE AND DEDICATION TO UNDERGRADUATE BIOLOGICAL SCIENCES

Concordia University, St. Paul

May 2018

### Dean's List

Concordia University, St. Paul

2014 - 2018

### Airman of the Quarter

ACKNOWLEDGMENT OF EXCELLENCE WHILE SERVING IN THE UNITED STATES AIR FORCE

Joint Base McGuire Dix Lakehurst

January 2013

### Academic Excellence

Hennepin Technical College

May 2010

## Skills

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### Programming Languages

BASH, R, JAVASCRIPT, PYTHON, SQL

### Markup Languages

CSS, HTML, L<sup>A</sup>T<sub>E</sub>X, MARKDOWN, RMARKDOWN

### Other Languages

SNAKEMAKE

### Version Control

GIT/GITHUB

### Text Editors

RSTUDIO, VIM/NEOVIM

### Health

SELF-AID BUDDY CARE (SABC), CPR TRAINED, AED CERTIFIED

### Safety

SELF-DEFENSE COORDINATOR, SEXUAL ASSAULT VICTIM ADVOCATE (SAVA)

### Mechanics

FCC GROL, CERTIFIED AIRCRAFT MECHANIC, CERTIFIED AUTOMOTIVE MECHANIC

## Presentations

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### The Modern, Practical Scholar Workshop Series

AN ACCESSIBLE, EXPANDING, PERPETUAL, AND CONTINUOUSLY UPDATING WORKSHOP SERIES FOCUSED ON TRAINING

SCHOLARS OF ALL CAREER STAGES IN APPLIED TECHNOLOGY TO STREAMLINE AND IMPROVE THEIR OVERALL SCHOLARSHIP

TECHNIQUES

University of California, Davis

2023-2025

### My Successes and Failures of Grad School: How to Think like a Scientist

A DISCUSSION TO STUDENTS ABOUT WHO CAN BECOME A SCIENTIST

University of California, Davis

June 2024

## **My Successes and Failures of Grad School: How to Think like a Scientist**

A DISCUSSION TO STUDENTS ABOUT WHO CAN BECOME A SCIENTIST

## **Thoughts on academic writing: Emphasis on the GRFP**

A LECTURE ON WRITING THE NSF GRFP TO IMSD STUDENTS

## **Relocation and the meaning of life**

A LECTURE TO PREP ON PERSONAL TIPS ON MOVING ACROSS COUNTRY FOR ACADEMIA

## **Student Funding Panel**

A DISCUSSION TO RECRUITS ABOUT GRADUATE STUDENT GRANTS AND FUNDS

## **Diversity, Equity, Inclusion Committee (DEIC) Gap Year Seminar**

A DISCUSSION TO STUDENTS ON THE IMPACT OF TAKING A GAP YEAR

## **Diversity and Life Panel**

A DISCUSSION TO RECRUITS ON LIFE EXPERIENCE IN GRADUATE SCHOOL

## **Fractal, Hausdorff, and the Euclidean Dimension**

A CAPSTONE PRESENTATION ON INDEPENDENT MATHEMATICS RESEARCH

## **Mandelbrot and Julia, an Imaginary Relationship**

A CAPSTONE PRESENTATION ON INDEPENDENT MATHEMATICS RESEARCH

## **Perserverance in Research**

A CAPSTONE PRESENTATION ON INDEPENDENT BIOLOGY RESEARCH

## **How to count the Cantor set... You Cant?!**

A PRESENTATION TO THE MATHEMATICS CLUB, SIGMA PI

## **3D Printed Koch Snowflake Fractals**

A PRESENTATION TO THE MATHEMATICS CLUB, SIGMA PI

## **Science Department Research Symposium**

AN UPDATE ON CURRENT STATE OF UNDERGRADUATE RESEARCH

Concordia University, St. Paul

September 2023

University of California, Davis

October 2022-24

University of California, Davis

May 2022

University of California, Davis

February 2022

University of California, Davis

March 2021

University of California, Davis

March 2021

Concordia University, St. Paul

December 2018

Concordia University, St. Paul

December 2018

Concordia University, St. Paul

November 2018

Concordia University, St. Paul

November 2018

Concordia University, St. Paul

April 2018

Concordia University, St. Paul

2017, 2018