GABRIEL MEDNICK, PHD

Biochemist, bioinformatician and data scientist

My PhD research allowed me to gain extensive experience with biochemistry, spectroscopy and molecular biology. After my postdoc, I worked as a senior scientist for a biotech startup where I utilized my expertise in DNA, RNA and protein biochemistry, and cultivated an engineering outlook on research applications in biotech. In recent years, my passion for R programming and data science has grown into my primary professional focus. My interests include biological data analysis and predictive modeling for working with all types of data. My mission is to facilitate data informed choices that provide insight, drive innovation and optimize decision making.

My company, Deepen Analytics, provides contracting and consulting services to generate innovative data solutions. In addition, I teach data science at various universities, including Kansas State and San Diego State.

PROFESSIONAL EXPERIENCE

2021

Founder and senior data scientist
Deepen Analytics — Santa Cruz, CA

- Data Science and Bioinformatics Consulting

2020

Computational biologist
Claret Biosciences LLC — Santa Cruz, CA

- Worked on unique modeling problems using tidyverse and tidymodels framework in R, as well as command line tools, bash scripting and python.
- Created and managed multi-step workflows with Snakemake.
- Used version control on all projects.
- Generated custom command line tools from R scripts using argparser.

2020 | 2018

Senior Scientist
UpRNA LLC (founded by professor David Deamer, inventor of nanopore sequencing.) — Santa Cruz, CA

- Investigated proprietary methods of DNA and RNA synthesis.
- Worked as the principal operating scientist.

TEACHING EXPERIENCE

2018 | 2016

General chemistry.
Taught and co-taught general chemistry and biology as part of an active learning initiative. — UCSC

2016 | 2009

Biochemistry and Physical chemistry
Teaching assistant for upper division biochemistry and physical chemistry series for multiple years — UCSC

CONTACT INFO

gabemednick.com

LinkedIN

github.com/gmednick

For more information, please contact me:

gmednick@gmail.com

SKILLS

Data science

Machine learning

Bioinformatics

Microbiology

Molecular biology

Biochemistry

Spectroscopy

Programming:

R, Python, SQL, Bash, Git/GitHub

My DataCamp profile

EDUCATION

2021 — **Data scientist**
Professional certification — Data Camp

2018 | 2016 — **HHMI postdoctorate at UCSC**
Teaching chemistry and biology with a focus on technology and student engagement in STEM
UCSC

2016 — **PhD in chemistry**
Research emphasis in biophysical chemistry — UCSC

Thesis: Structural Characterization of a Bacterial Photosensing Light-Oxygen-Voltage (LOV) Protein Domain From *Rhizobium leguminosarum*

2008 — **BS in biochemistry and molecular biology**
3.98 GPA — UCSC

Thesis: Interpreting Conformational Changes of the LOV2 Domain Using Time-resolved Raman Spectroscopy

INVENTIONS

2020 — **Methods And Devices For Non-Enzymatic Nucleic Acid Synthesis**
David Deamer, Gabriel Mednick — Filed by UCSC's patent office

SELECTED PUBLICATIONS

2020 — **AFM Images of Viroid-Sized Rings That Self-Assemble from Mononucleotides through Wet–Dry Cycling: Implications for the Origin of Life**
Tue Hassenkam, David Deamer, Gabriel Mednick, Bruce Damer
Life

2016 — **Structural and Functional Characterization of a Bacterial Photosensing Light-Oxygen-Voltage (LOV) Protein Domain From *Rhizobium leguminosarum*.**
Gabriel Mednick (PhD thesis) — UCSC

2006 — **Receptor for Advanced Glycation End-Products is a Respiratory Marker of Type I Cell Injury in Acute Lung Injury.**
Tokujiro Uchida, Madoka Shirasawa, Lorraine B. Ware,Katsuo Kojima, Yutaka Hata, Koshi Makita, Gabe Mednick, Zachary Matthay, and Michael A. Matthay
American Journal of Respiratory and Critical Care Medicine

2005

Activation of the7nAChR Reduces Acid-Induced Acute Lung Injury in Mice and Rats to the distribution of intra-individual divergence of alternative splicing.

Xiao Su, Jae Woo Lee, Zachary Matthay, Gabe Mednick, Tokujiro Uchida, Xiaohui Fang, Naveen Gupta, and Michael A. Matthay

American Journal of Respiratory Cell and Molecular Biology