# Stephen Golzari

Bioengineering: Bioinformatics

Undergraduate Student

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## Summary

I possess hands-on experience in dynamic web application development using React (JavaScript) and Django (Python), with a strong command of data structures and algorithms. I excel in API integration and have expertise in C++, Java, JavaScript, and Python. My creative problem-solving skills are enriched by my passions for chess and music composition outside of work.

#### Education

University of California, San Diego

Bioengineering: Bioinformatics, GPA 3.734

**Moscow Chemistry Team** 

A society of National Olympiad prize winners in Moscow

San Diego, California Sep. 2021 - June 2025 Moscow, Russia Sep. 2020 - May 2021

# Experience

#### **REU Web Visualization Developer - CAIDA**

San Diego, California

- Designing and constructing a comprehensive visualization of global Autonomous Systems utilized for the Internet Nov. 2022 Present by writing algorithms, using appropriate data structures (e.g. quad tree), and employing object-oriented design.
- Developing web-based solutions using a technology stack, including JavaScript, CSS, Python, HTML, utilizing Git for version control.
- Utilizing debugging methods, such as profiling, and implementing test cases to refine algorithm performance.
- Employing the d3 library to transform data into visualizations and facilitate data extraction for analysis.

Skills: building frontend from data, d3, JavaScript, HTML, CSS, GitHub, presentation, debugging.

#### Researcher at NEAR Foundation

Remote

- Analyzed user data on the blockchain utilizing Python, PostgreSQL, yielding valuable insights into user behavior. April 2022 - July 2022
- Conducted interviews with prominent leaders in Education, DAO, DeFi to gain comprehensive and informed perspectives on the latest trends and developments. - Wrote a report on the social dynamics of blockchain technology, with a keen focus on DAOs and Guilds, exploring their impact on

community growth and adoption. Skills: research, writing, working with data using Python and PostgreSQL, teamwork.

#### Researcher at Blockchain at San Diego

San Diego, California

- Conducted research on scalability issues in Ethereum and wrote an article on behalf of the club.

Jan. 2022 - June 2022

- Explored the latest Layer 2 solutions available on the Ethereum network, including Optimistic and ZK rollups, analyzed their respective strengths and weaknesses, and projected their potential future impact on the field.

Skills: in-depth understanding of blockchain technology, teamwork, research skills, communication, writing.

# **Projects**

#### illuma - Statistics for Spotify

August - September 2022

- Designed and developed a dynamic full-stack website using the Spotify API to provide users with detailed song statistics, personalized playlists, top charts, plots based on song data.
- Employed with array of technologies including React, JavaScript, Tailwind, Babel, Webpack, fro frontend; Django, Python, and RESTful API for backend.
- Integrated data visualization tools, such as ApexCharts and Material UI, to build charts and integrate industry-standard design.
- Deployed the website using Heroku platform and GitHub.

Skills: React, Django, JavaScript, HTML, CSS, Tailwind, GitHub, Data Structures and Algorithms.

**Spotify Web Player** 

- Dynamic full-stack website built with Spotify API provides users with access to music playback streaming - Implemented with React, Javascript, for frontend and Diango, Python, RESTful API for backend.
- Worked with Babel and Webpack, Material UI
- Deployed the website using Heroku platform and GitHub.

Skills: React, Django, JavaScript, HTML, CSS, GitHub.

#### **Image Editor Web Application**

March 2022

July 2022

- A website that allows users to download/upload and manipulate an image.
- Takes input from users and shows changes real-time by applying filters from Canvas API.

Skills: JavaScript, HTML, CSS, GitHub.

#### Courses

#### **CSE 30: Computer Organization and Systems Programming**

San Diego, California

March 2022 - June 2022

 Introduction to organization of modern digital computers - Systems programming in C and ARMv6, developed a foundation in low-level programming languages, acquired detailed knowledge of how memory works in computers.

Skills: C, ARMv6, debugging

# **CSE 100: Advanced Data Structures**

San Diego, California

January 2023 - Present

- Learning and designing high-performance data structures including balanced and unbalanced trees, graphs, hash tables.
- Practicing performance analysis of both average case and amortized performance
- Utilizing debugging methods such as gdb and valgrind; advanced programming skills in C++

Skills: C++, STL Library, Object-Oriented Programming, Advanced Data Structures, Algorithms, debugging

# Honors

#### **Provost Honors**

December 2021, March 2022, December 2022

Students who achieve 3.5 GPA or higher in at least 12 graded units receive Provost Honors for the quarter.