Samuel Peccoud

Computer Engineer | Software Developer

📞 (+1) 206-802-8129 | ✉ samuel.peccoud@gmail.com | sjpeccoud | samuel-peccoud

Education

BS. Computer Engineering   Aug. 2020 - May 2024

Colorado State University   Fort Collins, CO, USA

- Minor in Machine Learning
- College of Engineering Dean's List
- GPA: 3.87/4.0
- CSU Climbing Team Captain: 2x USA Climbing National Finalist

Experience

GenoFAB Inc.   Oct. 2020 - Present

Lead Software Engineer   Fort Collins, CO, USA

- Create a laboratory information management platform. Enabling research organizations to increase the quantity and quality of the data they produce.
- Design and implement UI and database for the web app from the ground up.
- Manage the deployment of new versions and ensure the stability of the production app.

Embry-Riddle Aeronautical University   May - Aug. 2023

NSF REU Research Analyst   Daytona Beach, Florida, USA

- NSF Research Experience for Undergraduates (REU) with a focus on drone swarms in the age of AI/machine learning.
- Developed behavior-based communication-aware formation control algorithms for dynamic multi-agent systems in jamming detection and avoidance.
- Produced three papers on multi-agent systems, and gave two presentations on the research.

GenoFAB Inc.   June - Aug. 2020

Software Developer Intern   Fort Collins, CO, USA

- Worked on a remote label printing web app for labs, enabling labs to create labels for their samples locally and remotely.
- Learned to use Ruby on Rails, React, Git, and Postgres in a professional team environment.

Publications

Published

[1] Berezin CT et al. Ten Simple Rules for Managing Laboratory Information. PLoS Computational Biology. (under review)

Preprint

[2] S. Peccoud, S. Xing, T. Yang, and R. Stansbury, "Behavior-Based Communication-Aware Formation Control in Dynamic Multi-Agent Systems for Jamming Detection and Avoidance".

[3] S. Xing, S. Peccoud, T. Yang, and R. Stansbury, "Robust Communication-Aware Jamming Detection and Avoidance for Distributed Multi-Agent Systems".

[4] R. Singh, I. Pellani, S. Peccoud, S. Xing, W. Reimer, Y. Liu, and etc,"Safety and Performance Assurance for Swarm UAV Operations: A Survey".

[5] Peccoud J, Johnson D, Peccoud S, Setchell J, Wen Z. "Organizing laboratory information to analyze the reproducibility of experimental workflows". bioRxiv (2022) 2022.04. 05.487214 https://doi.org/10.1101/2022.04.05.487214

Projects

Computer-Assisted Design of Genetic Circuits

Jan. - May 2023

CSU: Machine Learning Class Project

Presentation

- Create a machine learning model that can predict the best DNA sequence for making a genetic toggle switch.
- Compared different ML models: SVM / Random Forest / Neural Network.
- Reduce the design time of Genetic circuits because mechanistic simulations are time consuming.

Lab Temperature Sensor

Jan. - June 2022

CSU and GenoFAB

in Details

- Lead a team to implement a remote monitoring system for lab freezers.
- Collaborated with a lab at CSU, who gave specifications to create test driven development.
- Created multiple prototypes to receive feedback from the lab and advisors.
- Selected to present the project to CSU ECE Department and at a GenoFAB company meeting.

GPS Tank Robot

Sept. - Dec. 2020

CSU: Class Project

 Details

- An Arduino-powered robot that follows a preset GPS waypoint mission.
- Used accelerometer, gyro, and compass data as inputs for a PID controller to control motors.

Green Trakr: iOS App

Mar. - June 2020

Personal Project

- iOS application that tracks its users' carbon emissions while driving.
- Created this app during quarantine and presented it to 1 Million Cups, Fort Collins.
- Accepted into the Apple App Store.

Skills

Tools	AWS, Git, Keras, LaTeX, Arduino
Back-end	Ruby on Rails, Flask, PostgreSQL
Front-end	React.js, HTML, CSS, JavaScript, Bootstrap
Programming	MATLAB, C, Python, Swift
Languages	English (Native), French (Bilingual)

Presentations

Global BioFoundry Alliance Conference

Sept. 2023

Working Group Presenter

Copenhagen, DK

- Discussed the major software and data bottle necks related to biofoundries.
- Presented an overview of the discussion, highlighting key insights.

1 Million Cups

Apr. 2020

Startup Pitch

Fort Collins, CO

- Presented Green Trakr, an iOS application (in the projects section).
- Presentation covered an elevator pitch, business development strategy, and market analysis.