

Parker Williams

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EDUCATION

California Baptist University

Riverside, CA

Bachelor of Science in Computer Science, Minor in Applied Statistics

Exp. Graduation April 2026

WORK EXPERIENCE

Student Researcher

February 2024 – July 2024

California Baptist University - Engineering Department

- Developed **Python** scripts for 3D coordinate manipulation, text file parsing, and generation to facilitate research on **Pelvic Organ Prolapse Surgery**.
- Facilitated the transition of Finite Element Model simulations from Abaqus to FEBio software, improving computation time by **50%** and saving **\$10,000+** in annual software costs.
- Refined and optimized **Sequential Machine Learning** model using the **Keras API**, training it with over 10,000+ simulations to enhance accuracy predicting tissue properties to **85%**.
- Co-authoring a Methods **Research Paper** on the application of machine learning for inverse finite element analysis.

Undergraduate Student Worker

February 2024 – Present

California Baptist University - Engineering Department

- Developed **R** scripts for instance of Concerto, a CAT (Computer-Aided Testing) software hosted on AWS, enhancing its functionality for use in class grading in the Engineering Department.
- Implemented **SQL** tables to efficiently store and visualize student test performance data, enhancing data management capabilities.
- Collaborated closely with Dr. Mark Gordon throughout development cycle to ensure alignment with university's objectives and achieve desired outcomes.

PROJECTS

Better Blackboard Learn | 1,000+ Users | *Product* | *Source Code*

- Developed Chrome Extension using **JavaScript** providing Students full user customization of Class Images, Names, and Themes for Blackboard Learn. Compatible with **100+ Universities** across the world.
- Utilized Blackboard Learn Open API and Google Storage API to query user information and save settings.
- Achieved 1,000+ Active Users** and **numerous 5 Stars Reviews**.

Lancerchat | *Source Code*

- Developed an Omegle-like chat platform using **WebRTC** for peer-to-peer video connections and WebSocket-based matchmaking. Built the client in **TypeScript React**, styled with **SASS**, and bundled using Webpack.
- Implemented REST API with **Express**, email authentication via Nodemailer, and **PostgreSQL** for data management.

Stock Market Prediction | *Source Code*

- Engineered a machine learning model using Sci-Kit Learn's Random Forest to predict S&P 500 stock prices.
- Designed a back-testing engine, enhancing model accuracy by 12% through the use of historical market trends.
- Analyzed 30 years of S&P 500 data to understand market trends.

CAMPUS INVOLVEMENT

CBU Robotics Team

September 2024 – Present

- Developed a **computer vision** model using **TensorFlow** to detect and track game discs with 95% accuracy for use in VEXU competition.
- Programmed and optimized autonomous motor control systems for the robot, enhancing performance during the competition's autonomous phase.

TECHNICAL SKILLS

Languages: JavaScript, Typescript, Python, R, C++, Java, SQL, HTML/CSS, Sass

Developer Tools: Git, AWS

Libraries/Frameworks: React.Js, Node.Js, Express.Js