

BRANDON CHU

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EDUCATION

California State University Long Beach
Bachelor of Science in Computer Science

Long Beach, California
December 2026 (Expected)

Relevant Coursework:

Data Structures, Algorithms, Object Oriented Programming, System Programming, Operating Systems, Discrete Structures with Computing Applications, Artificial Intelligence, Machine Learning, Software Development with Frameworks, Database Fundamentals, Data Visualization, Deep Learning (Fall 2026)

EXPERIENCE

R&D Surgical Software Engineer Intern
Alcon

May 2025 - August 2025
Lake Forest, CA

- Developed and enhanced internal .NET/WPF tools to automate software release and validation processes for surgical device systems, reducing manual effort and minimizing the potential for human error across teams.
- Implemented role-based access control and data integrity verification systems to strengthen security, reliability, and compliance across the software release lifecycle.
- Developed software utilities that streamlined internal development and release workflows, enhancing process consistency and reducing turnaround time for validated software builds.

PROJECTS

Research Assistant Web Application | Python

January 2025

- Designed and implemented backend API endpoints using Flask to process user requests, summarize articles, and recommend related topics and links.
- Integrated Hugging Face's BART model and Google Search APIs to generate AI-powered summaries and retrieve related resources dynamically.
- Developed robust data extraction pipelines with BeautifulSoup and PyPDF2 to handle web and PDF-based content efficiently.
- Enhanced recommendation accuracy by approximately 30% through optimizing AI-powered keyword extraction algorithms to filter and recommend the most relevant topics and links.

Software Resource Comparison Utility | C#, WPF, .NET

Alcon - Summer 2025

- Designed and developed an internal automation tool to analyze differences between multilingual UI text and audio resources across builds, ensuring accurate version control and reducing manual review effort.
- Implemented integrity verification and automated comparison logic to validate file consistency, enforce versioning rules, and prevent discrepancies before release.
- Developed automated reporting capabilities that summarize detected changes and validation results, improving traceability and accelerating verification of localized software builds by approximately 60%.

choreo. (AI Dance Tutorial Platform) | React, Python, Flask, MediaPipe, Gemini API March 2026

- Won 1st Place Overall out of 60 teams at BeachHacks 2026 as a solo developer.
- Built a web app that converts uploaded MP4s and TikTok links into interactive, step-by-step dance tutorials.
- Implemented a MediaPipe/OpenCV pose-tracking pipeline to detect 33 body landmarks and generate skeleton-overlay practice videos for guided practice.
- Integrated the Gemini API to segment dance routines into structured, timestamped steps with detailed instructional descriptions, and built guided practice features including looping per step, speed control, video mirroring, webcam mode, and saved tutorials with user authentication.

TECHNICAL SKILLS

Languages | Python, C, C++, C#, SQL, JavaScript, HTML, CSS, TypeScript

Frameworks & Libraries | React, Node.js, Next.js, Express.js, Flask, FastAPI, WPF (Windows Presentation Foundation), scikit-learn, NumPy, .NET, .NET Core

Databases & Tools | PostgreSQL, MongoDB, MySQL, MS SQL, SQL Server Management Studio, SQLite

Developer Tools & Platforms | Git/GitHub, Docker, VS Code, Visual Studio, PyCharm, Windows, Linux/Unix