DEVAANSH MANN

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Skills

Programming Languages: Java, Python, C++, JavaScript, TypeScript, HTML/CSS, SQL
Frameworks & Tools: Spring Boot, Spring Security, React, PostgreSQL, Docker, Git, Maven, JUnit Cloud &
DevOps: Google Cloud Platform (Cloud Run, Cloud SQL), CI/CD, Secret Manager Core
Competencies: RESTful API Design, JWT Authentication, Microservices Architecture, Database Design, Compiler Development

Education

California Polytechnic State University, Pomona (In Progress) | *Pomona, CA, USA.* August 2025 – September 2027 (Anticipated)
Master of Science in Computer Science

California State University, Northridge (Completed) | *Los Angeles, CA, USA* August 2021-May 2025 (Conferred)
Bachelor of Science in Computer Science, Cumulative GPA: 3.5/4.0
Dean's List

Professional Experience

Res Life Intern – University Housing Services (UHS) - Cal Poly Pomona| *California, USA* October 2025 – Present

- Contributed to staff training and leadership development, including recruitment and selection of Resident Advisors to strengthen the Residence Life Team
- streamlined day-to-day housing operations by assisting with emergencies, reporting issues, and supporting departmental programs.

Recreation Technician – ASI BRIC - Cal Poly Pomona I *California, USA* August 2025 - Present

- Maintain pool operations: vacuum lanes, log daily chemistry readings, adjust levels, and troubleshoot pumps/filters to keep water within safety specs along with conducting routine care and minor repairs on fitness equipment.
- Promote a safe environment by adhering to Cal/OSHA/OSHA standards, enforcing BRIC policies, and delivering professional, customer-first support during operations.

Chair, University Student Union Board of Directors – CSUN| *California, USA* October 2024 – May 2025

- Directed Facilities and Operations Committee to manage facility, implement facility policies, and oversee new and existing projects in a 21+ million-dollar organization.
- Evaluated and approved new commercial operations, policies and projects within the University Student Union.

Resident Advisor – California State University, Northridge |*California, USA* August 2023 – May 2025

- Led emergency response protocols for 200+ residents, successfully managing 15+ critical situations per semester with 100% resolution rate.
- Resolved 30+ resident conflicts through structured mediation process, reducing incident reports by 40% and maintaining 95% resident satisfaction.

CSUN ARCS Research Assistant – California State University, Northridge |*California, USA* January 2024 – May 2025

- Developed a compiler and a programming language for **NASA Jet Propulsion Laboratory (JPL)** under the guidance of Lead Researcher.
- Contributed to compiler development achieving 30% reduction in simulation error rates through implementation of novel parsing algorithms

Teacher's Assistant (COMP 222) - **California State University, Northridge** |*California, USA* March 2023 – August 2023

- Evaluated 80+ technical assignments and research papers across 2 computer science courses, ensuring 24-hour turnaround time and detailed feedback.
- Mentored 50+ students through personalized feedback and performance tracking, resulting in 15% average improvement in assignment scores.

Projects

COLLEGEBUDDY | *California, USA* September 2025 – Present

GitHub Link: https://github.com/DevaanshMann/CollegeBuddy

- Developed full-stack social networking web application using **Spring Boot 3.3**, **React 19**, **PostgreSQL**, and **TypeScript**, featuring real-time messaging, user connections, group chat, and admin dashboard with 40+ REST API endpoints; currently expanding to native mobile applications for iOS and Android
- Implemented **JWT-based authentication and authorization** with **Spring Security 6.3**, including email verification, password reset flows, BCrypt hashing, and role-based access control (RBAC) for secure multi-tenant environment
- Designed and normalized **PostgreSQL database schema** with 13+ tables, **Flyway migrations**, foreign key constraints, and optimized indexes; wrote 5,600+ lines of Java code following layered architecture (Controller-Service-Repository pattern)
- Built responsive **React frontend** with **TypeScript**, React Router for protected routes, Context API for state management, and **Tailwind CSS**; created 31 reusable components with custom hooks and Higher-Order Components (HOCs)
- Containerized application with **Docker multi-stage builds** and deployed to **Google Cloud Platform (GCP) Cloud Run** with Cloud SQL integration, Secret Manager, and automated deployment scripts enabling auto-scaling 0-10 instances
- Engineered real-time messaging system supporting direct messages and group chat with unread tracking, read receipts, conversation management, and message persistence using **PostgreSQL** and efficient database queries
- Integrated **SendGrid API** for transactional emails using Strategy design pattern; configured production-grade security with CORS policies, Content Security Policy (CSP), HSTS headers, and XSS protection

SWIFT COMPILER BUG DETECTION AND FUNCTIONALITY ENHANCEMENT| *California, USA* September 2024 – Present

- Collaborating with Dr. Kyle Dewey on an automated testing framework for Swift Compiler, resolving bugs through targeted code generation and analysis.
- Enhancing code coverage by implementing custom test cases, leading to a reduction in undetected bugs in the Swift Compiler's core modules.

PARSER COMBINATORS PROJECT| Java| *California, USA* October 2024 – April 2025

Submitted paper (to appear): Iterator Based Parser Combinators

- Building new iterator-based parser combinators to parse ambiguous grammars, improving code flexibility and reducing runtime errors by 20%.
- Pursuing co-authorship of a research paper, with a target publication by end of Spring 2025.

PROTEUS | CSUN ARCS Center | NASA JPL| *California, USA* January 2024 – May 2025

Website: Proteus Programming Language

- Collaborating on the development of a specialized programming language for **NASA JPL**, focusing on reducing simulation error rates for the applications.
- Addressing limitations of existing languages, reducing simulation error rates, and enhancing system control during planetary explorations.

Publications

- ***Iterator Based Parser Combinators for Ambiguous Grammars.***
  Param Desai, **Devaansh Mann,** Kyle Dewey
  Computer Science Conference for CSU Undergraduates (CSCSU), 2025 (to appear).
  GitHub: https://cscsu-conference.github.io