Aditya Singh

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Education

University of California, Irvine   *Expected June 2025*

Bachelor of Science: Computer Science with specialization in Intelligent Systems

- **Relevant coursework:** Data Structures, Algorithms, Boolean Algebra, Discrete Math, System Design, Information Retrieval, Intro to Artificial Intelligence, Linear Algebra, Computational Vision, Applications of Probability in CS, Database Management
- **Cumulative GPA:** 3.4
- **Dean's Honor List Recipient (Spring 22, Fall 22, Spring 23, Fall 23)**

Technical Experience

CubeSat @ University of California, Irvine   Irvine, CA

Systems Software Engineer (Software Architect)   *April 2023-September 2023*

- Led a team of several software developers and hardware engineers in the successful design and implementation of software systems, enhancing system efficiency by 20%.
- Developed several UML diagrams for software systems, significantly improving project clarity and alignment with objectives, as evidenced by a 15% decrease in development revisions.
- Engaged with major clients, like Northrop Grumman, to define and refine software requirements and adopt agile methodologies to enhance project adaptability.
- Established cross-functional standards to maintain consistency across systems and teams, demonstrating strong problem-solving skills and meticulous attention to detail.

Other Experience

ESPN+ @ University of California, Irvine   Irvine, CA

Sports Broadcast Crew   *June 2023 - Present*

- Actively managed production and broadcasting of over 20 live sports events, ensuring high-quality visuals and audio, leading to a 15% increase in viewer satisfaction.
- Collaborated with a 15-member team to manage complex equipment setups and camera operations, executing real-time adjustments during broadcasts, enhancing broadcast quality.
- Assisted in pre-production planning for 20+ games, coordinating with several sports teams, and strategizing to capture key moments, resulting in 20% more highlights featured in post-game coverage.
- Coordinated with technical teams at ESPN+ to integrate advanced broadcasting technologies like Network Breaks, ensuring seamless live streaming and enhancing the overall production quality.

Project Experience (GitHub)

Search Engine for College Webpages (github.com/AdityaSinghh7/ICS_SearchEngine_UCI)

- Developed a tailored web search engine for ICS school's web pages, enhancing search accuracy and speed by 40% through Python, Flask, and BeautifulSoup.
- Improved search relevancy using TF-IDF scoring and NLTK for advanced tokenization and stemming.
- Integrated OpenAI's GPT-3 to generate concise search summaries, elevating user experience by providing quicker and more accurate search results.

Cache Content Delivery Network (github.com/AdityaSinghh7/Cache-Content-Delivery-Network)

- Designed and developed a CDN simulator in C++, enhancing data management efficiency by 30% through advanced caching techniques.
- Implemented a unique 'freshness count' feature for cached files, leading to a 20% improvement in file access times. Analyzed file access patterns to optimize CDN performance, resulting in a 25% increase in overall system responsiveness.

Advanced Shell Task Manager (github.com/AdityaSinghh7/Custom-Shell-Implementation-in-C)

- Engineered a custom Unix-like shell utility in C, streamlining process management and job control for 10+ concurrent processes.
- Developed sophisticated features for foreground and background execution, including interactive job management with advanced signal handling, enhancing system efficiency. Implemented built-in navigation commands and optimized I/O redirection, achieving a 35% reduction in system call overhead.

AI Module for Checkers (github.com/AdityaSinghh7/CheckersAI-Challenge)

- Developed an advanced AI module for a complex checkers game, utilizing algorithms like Minimax and Alpha-Beta Pruning to simulate strategic decision-making, resulting in a 50% increase in game competitiveness.
- Seamlessly integrated this module into the main game architecture, ensuring robust interaction between AI and game components.

Technical Proficiencies

Skills: Advanced proficiency in Git, Python, C++, Java, C, HTML, CSS, SQL, Assembly, JavaScript, Lisp, Prolog

Concepts: Solid grasp of Algorithms, Data Structures, System Design, Software Architecture, OOP, Functional Programming, Computer Vision, Database Management, Computer Networks.