

Nathaniel Kamal

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EDUCATION

California State University, Fullerton – Fullerton, CA

Expected Graduation: May 2026

Bachelor of Science, Computer Science and Bachelor of Arts, Applied Mathematics

GPA: 3.68/4.0

Coursework: OOP, Data Structures, Algorithms, Operating Systems, File Structures and Databases, Differential Equations and Linear Algebra, Statistics, Math Structures, Calculus III, Cyber Security

EXPERIENCE

STEP Intern

May 2023 – August 2023

Google

Mountain View, CA

- Implemented 2 full **C++** backend data processing pipelines for text ads and image ads, facilitating seamless ad processing
- Leveraged internal libraries and distributed computation to efficiently query databases and compute ad embedding
- Produced advertiser asset dataset, enabling expedited experimentation and training for machine learning models
- Ensured scalability by testing both pipelines simultaneously and utilizing 100 to 10,000 ads with processing times of 3 minutes to 12 minutes for collections of ads
- Conveyed pipeline creation process in internal design documentation, includes explanation of test cases
- Collaborated with co-intern to complete both pipelines and communicated with other teams to resolve permission issues

PROJECTS [\[GITHUB\]](#)

Bank Management System App | *C, CMake* | [\[Github\]](#)

September 2023 – Present

- Implemented an offline user management system in **C** with functions for login, registration, and user management
- Designed an account management system enable a user to create, delete, and access card data within their account
- Utilized file I/O to store and retrieve user data, ensuring information is saved between program runs

Tic-Tac-Toe | *Java, Java Swing* | [\[Github\]](#)

August 2022 – December 2022

- Developed a **Java**-based Tic Tac Toe game with modular logic components for enhanced functionality
- Crafted an intuitive user interface deploying **Java Swing** to ensure smooth player interaction
- Applied OOP principles to construct a structured, maintainable, and extensible design for the Tic Tac Toe game

Calculator | *Java* | [\[Github\]](#)

June 2022 – July 2022

- Orchestrated development of a calculator to execute a total of 17 mathematical equations
- Structured code to efficiently iterate through an array of switch cases to invoke each equation
- Conducted testing with 5 test cases to verify stability and reliability of code

Hangman | *Java*

January 2021 – May 2021

- Developed a **Java** game utilizing a graphical user interface (GUI) and leveraging acquired knowledge over the year
- Conceptualized 3 game ideas, presenting each to instructor for approval, and selecting most suitable project based on given prompt
- Implemented both front-end and back-end functionalities leveraging **Java**

TECHNICAL SKILLS

Languages: Java | Python | C/C++ | SQL | R | \LaTeX

Frameworks: Java Swing | JUnit | Abseil | Google Test

Libraries: Protocol Buffers | Google Mock

Developer Tools: Git | GitHub | CMake | Bazel | VS Code | PyCharm | IntelliJ | Eclipse | RStudio | CLion