

# Kevin Davidson

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## EDUCATION

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**Santa Monica College | Santa Monica, CA**

**June 2026**

**AS-T in Mathematics, Pursuing transfer to a 4-year institution for Applied Mathematics | GPA: 3.83/4.0**

- **Courses:** Data Structures in C++, C++ Programming, C Programming, Java Programming, Calculus 1-3, Differential Equations, Linear Algebra
- **Honors:** Dean's List

## TECHNICAL SKILLS

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**Languages (ordered by proficiency):** C++, Python, C, Java, HTML

**Tools and Frameworks:** Hugging Face, Git/Github, Linux (SSH), Adobe Photoshop and Illustrator, Microsoft Excel, Microsoft Office Suite, Google Workspace, Figma, Framer, CAD

**Libraries:** PyTorch, NumPy, OpenCV

## RELEVANT EXPERIENCE

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**Santa Monica College | Santa Monica, CA**

**Sep. 2025 - Dec. 2025**

*Supplemental Instruction Leader*

- Selected to lead peer-to-peer instruction for a **100+** person Data Structures (C++) course.
- Host 2x weekly office hours to debug **C++** code and teach complex topics (e.g., pointers, recursion, OOP).
- Manage an online support forum and collaborate with the professor to ensure content alignment.

**Obscura Design | Los Angeles, CA**

**Oct. 2020 - Present**

*Founder and Lead Graphic Designer*

- Designed the complete user interface (**UI**) wireframe and final mock-up for a B2B SaaS company's website.
- Created and delivered digital marketing assets, product packaging, and visual ads for freelance clients.
- Commissioned for **over 30** unique poster designs, managing client communication from concept to final delivery.

## RESEARCH & PROJECTS

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**TALOS: Computer Vision Bicycle Safety System | Personal Project**

- Developed "TALOS," an open-source bicycle safety system on a headless Raspberry Pi 5, integrating a custom YOLOv8 pipeline on a **Hailo-8L NPU (13 TOPS)** to accelerate inference from **3 FPS to 80+ FPS** for real-time safety.
- Engineered a custom dataset by implementing class merging and oversampling techniques, fine-tuning YOLOv8n to increase minority-class (motorcycle) recall by **41%** and publishing versioned models to Hugging Face.
- Implemented **Tau theory (optical expansion)** and Euclidean centroid tracking to calculate **Time-to-Collision (TTC)**, distinguishing actual threats from static background objects.

**Tic-Tac-Toe v2 | Personal Project**

- Implemented a Minimax algorithm decision engine with recursive depth-first search to compute optimal game states, mathematically guaranteeing non-losing outcomes.

**Movie Player | Personal Project**

- Architected a C++ movie player that loads ASCII frames into a custom-written doubly linked list to handle dynamic memory allocation.
- Implemented an efficient traversal mechanism ( $O(n)$ ) to play movies forwards/backwards and delete/copy frames.

## LEADERSHIP EXPERIENCE

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**Future in Tech at SMC | Santa Monica, CA**

**Aug. 2025 - Present**

*Co-Vice President*

- Co-manage club operations, helping organize technical workshops and industry guest speaker events.