KENNEN DERENARD

SOFTWARE ENGINEER

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EDUCATION

University of California, Riverside Sept. 2016 - June 2019
Bachelor of Science in Computer Science 2019
4.0 Overall GPA, summa cum laude

EMPLOYMENT

Apple, *AR / VR Software Engineer*, Sunnyvale, CA May 2022 - Current

- Collaborating cross-functionally within the Vision Products Group (VPG) to define and build Vision Pro and other future Apple products.
- Technical lead for the team integrating Apple's 2D drawing frameworks, Core Animation and Core Graphics, into the high-performance 3D renderer for visionOS, Reality Kit.
- Architecting innovative solutions to preserve high visual fidelity of rasterized content at all viewing angles and distances.
- Gaining hands-on experience with advanced technologies for graphics engineering, including ARKit, Metal (GPU), and 3D engines.

Amazon, *Software Dev Engineer II*, Culver City, CA Oct. 2020 - May 2022

- Prototyped a new product idea and presented to VPs and directors within Prime Video and Amazon Studios, leading to positive feedback from all stakeholders.
- Worked as a technical lead for a confidential Amazon Studios AI initiative, funded by executives at the highest levels of the company. This project had engineering influence spanning across science teams in multiple Amazon organizations (i.e. AWS, Alexa).
- Helped define initial product requirements, providing an opportunity to gain valuable business insight and product management experience.
- Developed a technical strategy for the project, including designing a foundational service that enables research teams to access multiple petabytes of training data.
- Planned parallel workstreams to distribute tasks and force multiply through the team, as well as wrote critical path code for designed systems.
- Expanded horizons as a security certifier, defining the security and monitoring approach for the team's product and security testing other orgs' products.

Software Dev Engineer I, Santa Monica, CA Oct. 2019 - Oct. 2020

- Worked on Prime Video Mixed Reality, implementing new features for the Prime Video VR application and acting as Scrum Master for the team.
- Performed a full scale backend migration from an internal language to JavaScript, enabling faster development and an early release to customers in 180+ countries.
- Took ownership of the PVVR client's video player, improving video quality and adding support for more content types.
- Built core client features for downloading of video titles for offline viewing, enabling PVVR to be the first major video streaming application on Oculus with this functionality.
- Designed key backend infrastructure for immersive detail page experiences on all Prime Video platforms, and built frontend client support for the Prime Video Mobile Android application. These pages have been served to millions of customers.
- Raised the bar, and high performance led to promotion to SDE II within a year.

SDE Intern, Santa Monica, CA June 2018 - Sept. 2018

- Worked as a Software Development Engineer Intern on the Prime Video Mixed Reality team during the summer of 2018.
- Main project involved designing and implementing voice search functionality across the PVVR application, a standout feature highlighted in the application's release.
- Completed the initial project early, and took ownership of an additional one to build search suggestions that improve the UX of typing in VR, a common customer pain point.

UCR Academic Resource Center, *SI Leader and Mentor*, Riverside, CA Sept. 2017 - June 2019

- Worked as a Supplemental Instruction Leader for the Academic Resource Center at UCR.
- Job entailed teaching an extra, ungraded class for historically difficult computer science courses. These classes included: CS fundamentals, Machine Organization and Assembly Language Programming, and Data Structures and Algorithms.
- Supervised fellow SI Leaders, including a team of 10 CS instructors. Facilitated improvements to class interaction and learning, focusing on streamlining curriculum.

PROJECTS

Fake Block 2019

- Worked with a team of 3 during Citrus Hack 2019 to build a project focusing on detecting and removing spam / ad tweets from a customer's Twitter feed.
- Utilized a mob programming methodology to gain experience working through all portions of the product.
- Created a fully functioning Chrome extension, with infrastructure implemented through a python flask server running on Google Compute Engine.
- Made time optimizations by using Google Memory Store caching, and accuracy improvements by comparing multiple machine learning classifier and NLP methods.
- Project won 1st Place Overall, Best Entrepreneurial Hack, and Best Use of Google Cloud Platform.

HLSPredict: Cross Platform Performance Prediction for FPGA High-Level Synthesis 2018

- Performed research in UCR's embedded systems lab on speedup and prediction of FPGA performance, with a publication for the 2018 International Conference on Computer Aided Design.
- Integrated the C++ Likwid Marker API into Polybench 4.1 workloads to profile an Intel CPU. Wrote Python scripts to aggregate results into a format for training ML models.
- Utilized baseline CPU and FPGA data to train 8 linear and 2 non-linear models, resulting in a minimum of 90% accuracy.

SKILLS

PROGRAMMING LANGUAGES: C++ (Proficient), Python (Proficient), C# (Proficient), Java (Proficient), JavaScript (Proficient), Objective-C (Proficient), Kotlin (Learning)
FRAMEWORKS AND OPERATING SYSTEMS: Android Studio, Xcode, Unity, Linux, Windows, macOS
CERTIFICATIONS: AWS Certified Developer Associate

ACTIVITIES

ACM, IEEE, Cyber@UCR, Television Academy, Drum Corps International, and Pep Band