Noel M. Kawano

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Website Portfolio: www.noelkawano.com

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CAREER OBJECTIVE
Seeking a career as a creative design engineer where I can maximize my graduate experience of creating microelectronics, virtual reality, augmented reality, stereoscopics, and data visualization environments.

EDUCATION
University of Hawaiʻi at Mānoa, College of Engineering
Bachelor of Science in Electrical Engineering   **Fall 2014**
Master of Science in Computer Engineering   **Spring 2017**

STRUCTRUAL DESIGN PROJECTS
Designed and constructed state of the art display environments to fit the needs of computer scientists in the study of data visualization and virtual reality.

CyberCANOE   **05/2014 – Present**
- Researched quotes and developed 3D models in AutoCAD for positioning and orientation of a networked system of high resolution display walls capable of real time content sharing for worldwide collaboration between systems.

CyberCANOE: Destiny class   **01/2016 – 03/2017**
- Lead the design and construction of the highest resolution hybrid reality environment in the world by incorporating OLED technology in a 320-degree cylindrical array.
- Developed an augmented reality training guide for the 80/20 construction of Destiny.
- Published research paper (EI 2017) as the lead author on the development of Destiny and the approach used to mitigate stereoscopic crosstalk.

ELECTRICAL ENGINEERING PROJECTS
Lead developments of rapid prototyping in microelectronic projects with custom PCB design, integration of sensor fusion, and audio signal processing.

Torque-Rod Control Unit   **08/2013 – 05/2014**
- Prototyped and assembled an affordable custom PCB board with integrated circuits for current control in a tri-axis torque rod system for a space-ready satellite test bed.

LED Dance Floor   **08/2014 – 12/2016**
- Designed and built an affordable, scalable, LED tile with integrated pressure sensors and RFID tags for entertainment and staging venues.
- Programmed in C using the ATMEGA microcontroller for user and music reactive effects.

Infinity Display   **Spring 2015**
- Invented an illusionary LED cube with a custom built 576 LED array combined with an infinity mirror.
- Programmed in C using the Teensy microcontroller for auto music reactive effects.

COMPUTER SCIENCE PROJECTS
Developed visually stunning models in the Unity3D game engine to understand concepts of real time data that benefit from being displayed in virtual reality and stereoscopic 3D.

Eventful Horizon   **09/2015 – 09/2016**
- Created and installed a black hole sandbox at the Imiloa Astronomy Center to illustrate gravitational lensing and orbital mechanics in n-body simulations.

Tully Galaxy Data Set   **10/2016 – 10/2016**
- Parsed 40 years of Hawaiʻi astronomy research of 30,000 galaxies to visualize galaxy images and locations relative to the Milkyway in 3D and virtual reality.

No Time for Caution   **05/2016 – 08/2016**
- Developed a short virtual reality experience that puts users in the shoes of the space pilot, Cooper during the stressful and enduring docking scene of the movie Interstellar.

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SKILLS

Generate 3D models in AutoCAD and Autodesk Inventor. Hands on knowledge of structural assembly of AV systems. Extensive practice in rapid prototyping for 3D printing, LED display housing, and microelectronic circuit design in Fritzing. Programming and optimizing experience in creating virtual environments with C# using the Unity3D game engine. Experienced in creating and demoing virtual reality and augmented reality sandboxes with the HTC Vive, Oculus Rift, and Microsoft Hololens. Capable of performing quick mathematical analysis for written scripts in MATLAB. Seasoned user of both the Windows and Mac operating systems, with junior experience in Linux virtual desktops.

EXPERIENCE

Graduate Research Assistant, Laboratory for Advanced Visualization and Applications   **01/2015 – Present**
- Brainstorm and design data visualization systems based on venue and client requirements.
- Test and prototype new display and camera technologies for 3D data visualization systems.
- Represent the lab and University at imaging and virtual reality conferences across the nation.
- Perform tech demos or special topic presentations on student made virtual reality projects.

Undergraduate Lab Assistant, Laboratory for Advanced Visualization and Applications   **05/2014 – 01/2015**
- Install, test, and maintain all CyberCANOE AV hardware and SAGE2 software system locations.

Undergraduate Student Intern, Unicold Corporation   **05/2013 – 08/2013**
- Shadow and assist engineers with safety installations and cooling compressor maintenance.
- Manage a project for facility blueprinting and escape route signage.

AWARDS

University of Hawai'i at Mānoa, PACE Breakthrough Innovation Challenge   **Fall 2014**
- 1st place winner for the development and marketing pitch of the LED Dance Floor.

COMMUNITY OUTREACH

Imiloa Astronomy Center 10 Year Anniversary   **02/2016**
- Installed and demonstrated the newly built CyberCANOE with the black hole demo, Eventful Horizon, to the local community in Hilo Hawai'i.

The Honolulu Mini Maker Faire   **03/2014 and 03/2016**
- Represented the Fabrication Laboratory (2014) and LAVA (2016) of the University of Hawaii with interactive lighting demos and virtual reality at a statewide Maker faire at Iolani School's Sullivan Center for Innovation and Leadership.

Kaimuki High School Engineering Day   **03/2014**
- Assisted a seminar on interactive LED systems using programmable Arduino microcontrollers.

Nuuanu YMCA and Kamehameha Schools Swim Team Program   **10/2012 – Present**
- Training a new generation of competitive swimmers as a voluntary assistant coach at both alma maters.

REFERENCES
- References and supporting documents will be furnished upon request.