

# KEI PALABASAN

## Digital Design Engineer

### ABOUT ME

Digital designer in Verilog with Linux driver experience and educational background in MEMS design and fabrication.

### EXPERIENCE

Apr 2025 - now **Bolt Graphics**  
**Software Engineer; Full-time Remote**  
Embedded systems engineering for graphics driver implementation and testing. - Worked on implementing driver and hardware functionality and stress tests, enabling test-driven development and regular regression testing for both driver and design work.

May 2022 - Mar 2025 **Smartfox Data Solutions, Inc.**  
**Hardware Engineer; Full-time Remote**  
- Underwent training in digital design and verification with Verilog and UVM, contributing to internal AXI-related IP.  
- Designed and tested FPGA-based chip testing equipment for various applications.  
- Adopted Agile methodologies and Gitflow, improving communication within the team and to product owners and stakeholders.  
- Developed Linux drivers for custom graphics hardware, enabling rendering and high-level testing of hardware designs on Xilinx FPGAs using industry-compatible APIs and benchmarks.

### ORGANIZATIONS

Oct 2021 - Oct 2022 **UP Competitive Robotics Club**  
**Chief Executive Officer**  
- Led the organization's post-pandemic transition from online to physical activities.  
- Managed UFM booth, driving a significant increase in recruitment, showing importance of F2F activities and interactive demos.  
- Handled first F2F robotics workshops, improving applicant and member retention.  
- Implemented necessary constitutional amendments and managed leadership elections to ensure organizational sustainability.

### LANGUAGES

**English** - native  
**Filipino** - proficient  
**Japanese** - proficient

### INTERESTS

**Music** - JPop/Vocaloid/Alt (Yorushika, Nakiso, Kanaria); Singing, Guitar.  
**Subculture** - Anime/Manga, Cosplay, VTubers.  
**Tech** - Custom Keyboards, AI model training/tweaking, Amateur Radio.  
**Games** - ARMA 3, Minecraft, GMod

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### SKILLS

**Teamwork/Communication:** Scrum, Agile, Team Management, LaTeX, Markdown  
**Languages:** C/C++, Verilog, SystemVerilog/UVM, GLSL, Python  
**OS/Applications:** Linux (systemd), Tensorflow, Vulkan, LTSpice, JAMStack

### EDUCATION

Aug 2019 - Aug 2023 **BS Electronics Engineering**  
**University of the Philippines Diliman - Quezon City, NCR**  
- Graduated *summa cum laude* (1.12 GWA, equiv. 3.8 GPA)  
- Affiliated with UP Microlab for capstone project.

### PUBLICATIONS

2023 **FPGA-targeted optimization approaches for SVM and CNN human activity recognition models using the HARTH and HAR70+ datasets**  
Palabasan, K.R., Rajagopalan, R.S., Manzano, J.M., Rosales, M.D., De Leon, M.T., Hizon, J.R.E.  
Conference paper for PrimeASIA 2023.  
doi:10.1109/PRIMEAsia60757.2023.00009

2023 **Comparison of hardware-optimized CNN and SVM models for human activity recognition using the HARTH and HAR 70 + datasets**  
Palabasan, K.R., Rajagopalan, R.S., Manzano, J.M., Rosales, M.D., De Leon, M.T., Hizon, J.R.E.  
Submitted as Undergraduate Project. Conference paper for ISOC 2023. Furiosa AI Award.  
doi:10.1109/isoc59558.2023.10396338