

Alexander Phillips

Principal Engineer, Test Engineering

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SUMMARY

Principal engineer in test engineering and silicon validation, focused on Cadence's Palladium emulation and Protium prototyping systems. Ten years of building test-automation frameworks, system-monitoring software, and manufacturing tests for rack-scale hardware, starting from a physics background in dark-matter research.

EXPERIENCE

Cadence Design Systems 2022–Present
Principal Engineer · Test Engineering, Silicon Validation Group San Jose, California

- Created the Protium System Manager (PTSM), which ships on every Protium X3 rack: it reports the live status of every blade and moved blade-to-blade communication from UART to Ethernet, a far more reliable link.
- Built the automated test framework for the Palladium Z3 and Protium X3 rack-level designs, made R&D's tests run more efficiently, and wrote new tests for several product lines.
- Helped launch Palladium Z3 and Protium X3 into manufacturing.

Jabil Circuit 2016–2022
Test Engineering Lead, High Performance Computing San Jose, California

- Led the department's test group of engineers and technicians; promoted from intern to test engineering lead and certified as a Subject Matter Expert (SME) Engineer by examination.
- Designed and maintained the automated test infrastructure for a customer's enterprise emulation platform, and later a large-scale device-testing framework, in Python, Bash, and C shell on Linux.
- Proposed and built a generative adversarial network (GAN) to detect defects in printed circuit boards.
- Built production data tooling: test-result parsers in Python, Rust, and Go for the manufacturing execution system (MES), a live test-progress monitor for the factory floor, and a secure data portal spanning test stations.
- Designed tests with customer engineers, traced design flaws, and consulted site-wide on new product introductions.

King Saud University 2015
Research Assistant, Physics Riyadh, Saudi Arabia

Built dye-sensitized solar cells and measured their quantum efficiency.

Purdue University 2013–2014
Undergraduate Research Assistant, High Energy Physics West Lafayette, Indiana

- Developed pulse-shape discrimination methods in C and Python to separate neutron and gamma recoils in XENON100 detector data for dark-matter searches.
- Built hardware for a neutron-generator setup, including a hardware replacement for gamma-recoil discrimination scripts.

EDUCATION

Purdue University 2010–2015
Bachelor of Science, Electrical and Computer Engineering, Minor in Physics West Lafayette, Indiana

SKILLS

<i>Languages</i>	Python, Rust, C, Go, Bash, SQL, SystemVerilog
<i>Hardware and test</i>	Hardware emulation, FPGA prototyping, Rack-level test automation, Silicon validation, Manufacturing test, MES integration, JTAG
<i>Tools</i>	Linux, Git, QuestaSim, ModelSim

CERTIFICATIONS AND AWARDS

<i>Certifications</i>	Subject Matter Expert (SME) Engineer, Jabil Circuit • Lean Bronze (Kaizen), Jabil Circuit • Qualified Sealed Radioactive Source Handler, Purdue University
<i>Awards</i>	Jabil Star Award, Jabil Circuit • Respect, Recognize, Reward Award, Jabil Circuit • First Place, Regional Best Practices Competition, Jabil Circuit