

• nicholas squires •

• ENGINEER • MATHEMATICS INSTRUCTOR •

• Los Angeles, CA • syntax@arbitrary.com •

PROFILE

Multi-talented, innovative, top producing engineer who has consistently demonstrated exceptional integrity, work ethic, continued learning, and ability to seek out and take on new challenges well above level designation during his 15 years of working for The Boeing Company in a variety of engineering disciplines.

Sought after subject matter expert in software build/release management known for implementing cutting-edge build automation, Continuous Integration, software production, and Software Configuration Management solutions.

Extensive lab management experience known for designing, planning, procuring, and implementing low-cost, innovative, and cutting-edge Information Technology solutions specializing in small to medium-sized software development, integration and test environments.

Expert software developer with proficiency in the full software lifecycle. Known for designing and implementing cutting edge web server/client software, automation tools, and software systems. Proficiencies with current, industry standard programming/scripting languages, software tools, and best practices. Experience with functional, unit, and acceptance testing.

Expert Systems Administrator related to networks, workstation/server/data center hardware/software, open source software, and virtualization technologies. Experience designing and implementing backbone, wide-area (WAN) and local area (LAN) networks, especially with respect to renewable energy microgrids and power systems.

AREAS OF STRENGTH

Software and Systems Engineering

Teaching

Lab Management

Power Systems Networks

Continuous Integration

Graphic Design

Software Configuration Management (SCM)

Virtualization Technologies

Build and Release Management

Software Processes

Technical Documentation

Systems Test and Integration

Software Test Automation

Information Technology

Networking

PROFESSIONAL DEVELOPMENT AND EDUCATION

SYSTEMS ENGINEERING FUNDAMENTALS CERTIFICATE • 2014

California Institute of Technology – Center for Technology and Management

MASTER OF SCIENCE – PHYSICS • GPA 3.9 • 2009

California State University Long Beach

- CSULB Department of Physics Graduate Honors
- Papers: Electronic Excitations in Graphite and Graphene Multi-layers

BACHELOR OF SCIENCE – PHYSICS & MINOR – MATHEMATICS • GPA 3.8 • 2004

University of California Davis

- College of Letters and Science Highest Honors
- Department of Physics Citation
- Senior Thesis: The Heisenberg Model for 2D Spin-1/2 Triangular Antiferromagnets: An Application to Cs₂CuBr₄
- Phi Kappa Phi Honors Society

EXPERIENCE

NRG Energy, Inc. - Station A • 2015

Software and Systems Engineer • Chief Communications Architect (Independent Contractor)

- Lead the design and development of the communications, information technology and data acquisition system for the *Virgin Limited Edition (VLE)/Necker Island Renewable energy Microgrid*

Selected Accomplishments

- Achieved customer acceptance of Phase II of the Necker Island Microgrid Communications system design

The Boeing Company • 1999 – 2015

Chief Communications Architect • Boeing Ventures • 2013 - 2015

- Lead the design, development, integration, implementation, and commissioning of the communications and data acquisition system for the Virgin Limited Edition/Necker Island (1.2 MW) and Boeing Mesa (30kW) renewable energy microgrid projects
- System requirements definition, analysis, and management
- Designed and implemented interfaces and integrations for all hardware and software subsystems into the communication system
- Defined, designed, and implemented the secure remotely accessible WAN/LAN, microgrid computing and data collection system. This consisted of a small data center, fiber optics backbone, six managed network segments that integrated three 300kW diesel generators, 300kW solar array, 1.2 MW energy storage system, 900kW wind turbine, various meters and power controls, and numerous power loads including a desalinization plant, pool heaters, and other operational loads.
- Developed the communications system acceptance test plan

Selected Accomplishments

- Achieved customer acceptance of the Necker Island Microgrid Communications design; my design played an instrumental role in winning Boeing's \$1 million Phase I implementation contract.
- Implemented Phase I communications and data acquisition system on Necker Island and achieved commissioning status for the microgrid system.
- Implemented communications and data acquisition system for the Mesa microgrid and achieved solar array commissioning status.

Lab Manager, Software Configuration Manager, Build & Release Manager • Boeing Ventures Secure Grid Manager (SGM), Commercial Crew Integrated Capability (CCiCap) • 2010 – 2013

- Responsible for the integration of 3rd party hardware & software platforms
- Lead system architecture, definition, test, procurement, and implementation, of software development, test, and integration environments
- Lead the specification, design and development of the SGM deployment platform. Responsible for integration and system checkout at partner hardware-in-the-loop (HWIL) facilities in support of critical program milestones.
- Designed a mechanism for remote management of the fielded Microgrid system.
- Responsible for configuration management of all SGM environments within Boeing and at remote partner sites.
- Responsible for the integration, test, and operation of the SGM system in support of the Smart Grid live demonstration; program's biggest milestone.
- Used an open source CI system to automate the entire build process including the nightly, engineering, and release builds with unit testing, static analysis, functional testing, code metrics, user documentation, software packaging, and continuous delivery to various test and production environments.

Selected Accomplishments

- Boeing Achievement award for Technical Leadership in the successful demonstration of Boeing's Smart Grid Technologies at the 2012 Smart Grid Live conference
- Implemented virtualization and open source technologies to avoid upwards of \$500K in capital costs

Fashion Institute of Design and Merchandising • 2007 – Present

Mathematics Instructor

- Developed curriculum and teaching materials for college level math courses
- Developed mathematics based projects focused on exploring mathematics in student's design and merchandising degrees
- Invented a web-based grading system to provide students real-time, historical and, forecasted grading data

Selected Accomplishments

- Five-time "Instructor of the Year" nominee

SKILLS

Software Proficiencies and Development Platforms

Subversion, Git, Cisco IOS, MongoDB, VMWare Suite, MySQL, Linux Utilities, Hudson/Jenkins CI Server, InstallAnywhere, Trac, XAMPP, Rational ClearQuest, Rational ClearCase, DOORS, Matlab, Eclipse, Wireshark, Adobe Studio, Processing, Arduino, Raspberry Pi

Software Technologies and Practices

Continuous Integration, Version Control Systems, Defect Tracking, Automation, Virtualization, Open Source Software, Software Testing, Agile Development Practices (Scrum, etc), Web Servers (Apache, IIS), Wikis (Trac, Mediawiki), Weblogs (Wordpress), SAN, iSCSI, NFS, Samba, IPtables, NTP, Active Directory, LDAP, DNS, DHCP

Programming Languages, Scripting, Markup, Protocols

Python, Bash, PERL, PHP, SQL, CGI, HTML, CSS, XML, REST, SOAP, C, JavaScript (Frameworks: Prototype), AJAX, JSON, DNP3, Modbus, Open Sound Control (OSC), MIDI, HTTP, TCP/IP

Operating Systems

Linux (Debian, SuSE, Redhat, CentOS, Ubuntu), Microsoft Windows desktop and Server, Mac OS

TRAINING AND CERTIFICATIONS

- Cisco Certified Network Administrator Training • 2014
- LDRA Tool Suite • 2014
- Rational Clearcase Administrator • 2010

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