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**Peter Carlson, PhD**  
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## TECHNICAL WRITER

Organize and publish content, design information, write and edit high-quality technical documentation across varied media. Interview experts, organize reviews, edit content, and share best practice. Automate documentation and plan work. Analyze systems and research new topics. Understand the requirements, architecture, and design of software products and systems.

## TECHNOLOGY AND TOOLS

Operating Systems	Linux (e.g., Ubuntu), UNIX; macOS
Authoring	oXygen, Markdown, reST, OpenAPI (Swagger), HTML5; MS Word , MS Excel; MediaWiki, Confluence; Doxygen, Sphinx, Doc-O-Matic, Javadoc; InDesign, Dreamweaver
Graphics	Photoshop, OmniGraffle, Visio, GIMP, Inkscape, PlantUML
Networking	TCP/IP, NMS, SNMP, TR-069, XMPP
Programming	C++, C, Python, JavaScript, Java, Assembly language; XML, shell
Other tools	git, GitHub, Jekyll, svn; DITA; Docker; MS PowerPoint, Acrobat
Content Audiences	Programmers, developers, architects; researchers; general public
Content Deliverables	Programming guides, manuals, instructions; White papers, specifications, abstracts; APIs, programmer reference guides; Wikis; Requirements, use cases, user stories, procedures; Glossaries;
Industries	Consumer appliances, telecommunications, networking, medical, robotics, machine learning, artificial intelligence
Natural languages	English, Understand Afrikaans; International experience
Related skills	Editing, proofreading; Information design, content strategy, writing across social media, findable content; Structured-content authoring; Accessibility; Rally Software, Agile; Software architecture, UML, Visure, RequisitePro, DOORS; Style guides: APA, CMS, Microsoft

## PROFESSIONAL EXPERIENCE

**IBM Research, Almaden, CA**  
Technical Writer and Archivist

**05/2015 – present**

For the multidisciplinary Brain-inspired Computing group that develops neuromorphic platforms, prepared developer guides and data sheets that covered multiple hardware prototypes and multiple software components. Maintained organized archives of the content. Refined the documentation tool set. Developed modular information by using DITA from Confluence content. For API documentation, developed framework in doxygen and wrote REST interface in OpenAPI. Created framework in Sphinx and reStructuredText for guides and API references.

- Provided documentation, often on short notice, to meet the release milestones for multiple customers and partners. “Thank you for you[r] hard work and dedication to

quality. You produce great documentation that really makes a difference for all of the TrueNorth users/clients.” “... [shout-out] for absolutely first rate documentation”

- Created new set of guides for developers. “The new manuals ... look spectacular.” “Vision and skill in compiling these documents ... huge amount of information ... to pull together and integrate from a variety of scattered sources ... created a solid foundation on which we can all build.”
- Prepared guide for manufacturer of the neuromorphic board. “What a beautiful and complete guide!” “Great job on the guide and on collaboration [with hardware engineers].” “Peter did a lot of work to make it usable and nice-looking.”

**Think Surgical (was Curexo Technology), Fremont, CA**

**01/2014 – 05/2015**

Senior Technical Writer (11/2014) and Technical Writer (in Engineering department)

Developed, wrote, and edited engineering documents, emphasizing software architecture, interfaces, designs, and detailed specifications for a computer-controlled surgical robot.

Published specifications for external regulatory authority under 21 CFR 820 and IEC 62304 with tight deadlines. Created developer user guide for internal team. Managed a content management system for about 4,000 requirements.

“Great review and suggestions, Peter!” from management after presenting to team how I manage the document set. “You’re a great tech writer.” “You have been wonderful to work with.”

**Stealth startup, San Francisco Bay Area, CA**

**11/2013 – 12/2013**

Software Architect

Advised on architecture and high-level design of consumer product. Part-time, unpaid.

**Cisco, San Jose, CA and Atlanta, GA**

**8/2005 – 10/2013**

Technical Leader (02/2009) and Senior Staff Systems Software Engineer

For Service Provider Video Technology Group, developed new video architectures for home devices. Defined use case, designed interfaces, composed APIs: C, Web Services, REST, XML, HTML5, IPTV protocols. Applied to network management, home networking. Generated system requirement specifications. (In 2/2009 Cisco acquired my employer Scientific-Atlanta).

- Edited and proofread others’ documents and recommended documentation structure to team, enabling high quality baseline of design information.
- Co-created much of the content of a crucial service-layer API in C (with hundreds of functions) and reinvented its publication with auto-documenting tools, midst praise.
- Introduced accurate, concise architecture and design of system for multiple in-home DVRs. My use cases enabled developers to program the system quickly and efficiently. “[His] documentation and logical thinking are superb.”
- Clarified new API for video in HTML5. “[A] design document [he] wrote provide[d] a clear guideline and solid foundation for the development and testing team.”
- Flexibly rethought and logically refactored architecture, and wrote Agile user stories, for new diagnostics system; worked across groups to create compatible system. “[He] shows initiative by working with the [...] team to clarify [features], creating white papers where he sees that information was lacking.” “It’s a joy to read [his] design documents. It’s like reading [...] poetry.”

### **ADDITIONAL PROFESSIONAL EXPERIENCE**

Authored use cases, requirements, and high-level design in the architecture team of software engineering department developing Motorola digital TV advanced set-top boxes.

- Introduced automated procedure to compose API specs from source code, wrote sample code, replaced Word API specifications and freed time for staff
- Created organic, well-organized content; documented change-management

Analyzed requirements and designed systems for customer care solutions and e-commerce while working as business analyst and technology lead consultant. Redesigned telecommunications operational network infrastructure and call flows. Provided oversight for design of call center system and operational deployment of staff.

Managed projects and designed solutions for web-enabled contact centers and call centers

Developed test plans for Fujitsu digital loop carrier system and digital radio network

Managed technical operations for manufacturer of data communications products

Designed and constructed prototypes of embedded datalogging and testing equipment for mining, energy, and health industries; performed hardware and software development

Designed and constructed prototype embedded solid-state electrocardiogram recorder for ambulatory medical patients and automatic tester for cardiac pacemakers

### **EDUCATION**

#### **PhD in Electrical Engineering**

University of Cambridge, United Kingdom. US equivalent: Earned doctorate (PhD)

#### **Bachelor of Science (Electrical Engineering) First Class Honors.**

University of Cape Town, South Africa. US equivalent: Bachelor's.

#### **Graduate Certificate in Technical Communication (2010-2013)**

Southern Polytechnic State University (now Kennesaw State University), Atlanta, GA

### **PROFESSIONAL AFFILIATION**

Society for Technical Communication (STC)