**Ron W. Moore**

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**Education**:

***Stanford University***: MS Aeronautical and Astronautical Engineering (May, 2012)

***California Institute of Technology***: BS Mathematics

**Work Experience**:

2016 – current ***AllegisGroup*** (Aerotek / TEKsystems): Contracted to Oak Ridge National Laboratory (SW Engr), ExxonMobil (HPC Engr), the Navy (Sr SW Engr), and AeroVironment (Sr Test Engr)

2013 – 2015 ***eSolar***, Burbank, CA (Sr SW Engr)

2011 – 2013 ***Bloomberg LP***, R & D, Internal Systems, New York, NY (Sr SW Engr)

2006 – 2007 ***Stanford University*, CA:** Consulting Professor in Aero Astro Engineering Dept

2004 – 2010 ***Northrop Grumman***, Space Technology and Electronic Sys in Southern CA (Lead Space Vehicle Engr, Sr Sim Analyst, Sr SW Analyst, Sr SW Engr, Group Lead)

2001 – 2003 ***Next Engine***, Santa Monica, CA (Sr SW Engr, Group Lead)

1997 – 2001 ***Walt Disney Internet Group*** incl at Infoseek.com (Sr SW Engr, Group Lead)

1996 – 1997 ***Film Roman***, North Hollywood, CA (Lead Project Engr)

1990 – 1996 ***Philips Media***, Los Angeles, CA (Sr SW Engr, Lead Project Engr)

1983 – 1990 ***Logicon/RDA*** incl at Jet Propulsion Laboratory (Computer Scientist, Sr SW Engr)

**Awards**:

* Northrop Grumman 2008 TAP Award for AAR RelNav
* Northrop Grumman 2006 Mission Excellence Award for ISR Test Bed
* Patent: “An Apparatus and Method for Point Cloud Assembly” ® 6,701,006.

**Certifications**:

* CMMI-4 (Northrop [2008]: CMMI Institute)
* Mission Engineering (Northrop [2007])
* Risk Management (Northrop [2008])
* System Engineering (Northrop [2008])
* AGILE Development (Bloomberg LP [2011)
* Financial Instruments (Bloomberg LP [2011])
* Laser System Engineering II (Northrop [2008])
* Secure Database Design (Bloomberg LP [2011])

**Skills**:

**Algorithms**: Encryption/Decryption, Equalization, Error Detection & Correction, 3D Feature Analysis, Gridding, Histogram, Hole-filling/Interpolation, MRI, Scheduling

**Operating Systems**: AIX, Green Hills, iOS, Linux (Centos/7, Fedora, RHEL), Windows

**Protocols**: FTP(S), HTTP(S), I2C, MPI, NFS, OData, SLIP, SOAP, SSL, UDP

**Software Design**: Asynchronous, Design Patterns (e.g., Singleton, Publisher/Subscriber, Encapsulation, Functor), Fault tolerant, Micro Services, Modular, Object Oriented (OOP), WebAPI

**Software Languages**: C, C++17, C#/7.2, CMake/3.19 (contributing author), COBOL/’85, FORTRAN/’98, JavaScript/SpiderMonkey, Matlab, Python, SQL, Shell-Script (bash, csh, ksh, sh), XML [Legacy: Smalltalk-80, Pascal, Prolog, APL, PL/1, SNOBOL, RPGII, Basic(pre MS rewrite)]

**Systems**: Military and CubeSat Flight Software, Web Services Constellations, C4I, ISR, Avionics, Precision GPS (PGPS).

**Software Tools**:

* Microsoft (MS): ASP.NET, Office (incl Project and Visio), SQL Server Integrated Services (SSIS), SQL Server Management Studio (SSMS), Xamarin.
* Continuous Integration (Source Control): ClearCase, CVS, GIT, GitHub, RCS, SCCS, Subversion, Team Foundation Server (TFS).
* Data Abstraction: JavaScript Object Notation (JSON), MS Active Data Objects (ADO), EntityFramework (Core), SOAP, SQL Server Data Tools (SSDT), and Windows Communications Framework (WCF);
* Data Content Servers (DCS): Apache, MS Internet Information Server (IIS).
* Databases: SQL (MS SQL Server, Oracle), MySQL.
* Emulation Environments: Cygwin, GNU, MSYS/MSYS2, Qt.
* Integrated Development Environments (IDEs): CLion, Eclipse, PyCharm/2020, QtCreator/4.8, Visual Studio/2019.
* Software Development tools: CMake/3.19, Make, PC-Lint, ReSharper (R#).
* Virtualization: MS Hyper-V, KVM, VMware.
* Misc.: GTK, PBS Pro/18, Qt/4.8, STK (Satellite Tool Kit), C++ STL (Standard Template Library, C++17).

**Computer Hardware**: Embedded Systems (ARM, Hughes, Motorola, Philips, Sony, and Zilog), Supercompuers/Mainframes (Oak Ridge National Laboratory **Summit**, Cray (XC30, XC40 & XC50), Dell, IBM, Intel, Sun), Dell, HP, Mac, and Sun.

**Propulsion**: Electric propeller, Gas turbine, Rocket (solid, liquid, hybrid).

**Manuals Written**: “*Balboa Runtime System*” (1993, 4 volume set), and “IBM *Basic Assembly Language*” (1977).

**Experience:**

2/2019 – current **TEKsystems**, Thousand Oaks, CA. Contracted to Oak Ridge National Laboratory in Tennessee, as an HPC and SW Engineer

Implement and support massively parallel systems of Image and Abstract Data Analysis Equations for the Department of Energy. Back-end applications were prototyped with Python, developed in C++14, using the CMake build system, within the Windows, Linux, and supercomputer platforms. GUI front-ends were built on Windows, or were completely platform agnostic utilizing WebAPI.

5/2017 – 7/2018 **Aerotek**, Oxnard, CA: contracted to AeroVironment in Simi Valley, Sr. Test Engr.

I developed and updated test engineering solutions for the AeroVironment Unmanned Aerial Systems production line. It was exciting to work in a vibrant growing company, with rapidly developing prospects. I primarily worked on Windows applications with interfaces to a wide variety of test equipment and embedded software packages. Work was done in C# and C++, on Windows and Linux, with interfaces built from WinForms and LabVIEW.

[Aerotek – 2751 Park View Court, Suite 221, Oxnard, CA, 93036; (805) 604-3011]

2/2016 – 1/2017 **TEKsystems**, Thousand Oaks, CA: contracted to Smartronix on Navy contract, Sr. Engr.

I worked as an Engineer, Software Engineer, and Systems Analyst. I worked on the engineering design for the CH53-K “Glass Cockpit” upgrade, including overall project analysis, design and development of Mission Management and Cargo Load Management. I researched, designed, and developed portable client and back-end database services for mission management planning. The portable client was written in C# and targeted Android and iPad Mini. The back-end services were built with C#, on Windows Server and Windows 10, with MS-SQL, utilizing Entity Framework, SSDT, and SSIS.

[TEKsystems – 2535 Townsgate Rd, #201, Westlake Village, CA 91361; (805) 557-1800]

8/2013 – 11/2015 **eSolar**, Burbank, CA, Sr. Software Engineer

I developed software for power plant control systems in C#, C++ and SQL utilizing Entity Framework, SSDT, and SSIS, with interfaces built from WinForms. This software monitored sensors, logged them to a database, and pushed their data real-time into an OPC network; monitored high-resolution cameras with image processing integrated with control system feedback; developed and expanded robotic control algorithms as part of the power plant “Throttle”.

[eSolar – 3355 Empire Ave #200, Burbank, CA 91504] (No longer in business).

1/2011 – 3/2013 **BloombergLP**, R & D, Internal Systems, Manhattan, NY, Sr. Software Engineer.

I designed and implemented functional screens within *The Bloomberg* financial services terminal environment (CUST, SOR). This included thousands of lines of JavaScript interfaced with GTK for the User Experience layer, C# based Web Services, and Microsoft SQL Server Stored Procedures for backend support (MS-SQL, ADO, Entity Framework, SSDT, and SSIS). On a continuing basis, I debugged the legacy code base for *The Bloomberg* (a.k.a. The “Big”) which includes many millions of lines of FORTRAN, C, and C++ integrated together. This included heavy use of WebAPI interfaces.

[Bloomberg L.P. - 100 59th St, New York, New York, 10022; (212) 318-2000]

6/2004 – 12/2010 **Northrop Grumman,** Sr. Software Analyst 4, Sr. Software Engineer 4, Engineering Group Lead.

* 2/2008 – 12/2010, **Electronic Systems (NGES),** Woodland Hills, CA**.**

[21240 Burbank Blvd, Woodland Hills, CA 91367; (818) 715-4040]

* 6/2004 – 2/2008, **Space Technology (NGST**; now part of Aerospace Systems, **NGAS)**, Redondo Beach and El Segundo, CA; Lead Space Vehicle Engineer, Sr. Simulations Analyst.

[1 Space Park Blvd, Redondo Beach, CA 90278; (310) 812-4321]

* **IRAD “*GPS Challenged Navigation*”**, Software Analyst: support for real-time experiments with the integration of Inertial Management Units (IMUs) and Optical Image Recognition with GPS when signals are “jammed” or otherwise occluded. Work was done in C++ with interfaces built from WinForms.
* **Automated Aerial Refueling** – Relative Navigation (**AAR RelNav**), Software Engineer: Developed embedded C and C++ code which performed Precision GPS (PGPS) in real-time, within the Rockwell-Collins LN25x navigation system. The flight software calculated the relative position of a tanker aircraft and UAV (autopilot or drone), with a precision of 2mm every 50ms. Won a ***T.A.P****.* award in 2009 for my contributions to this project (Timely delivery Award Program). This code executed operationally on the Green Hills Real Time operation system.
* **ISRTB** – Intelligence Surveillance Reconnaissance Test Bed, Lead Space Vehicle Engineer: Develop detailed models and simulations to advance satellite scheduling, design, and constellations. The simulations were presented using a customized edition of Celestia, saved video streams, and LabVIEW for tighter focus on task scheduling and associated dependencies. Maintained the custom edition of Fedora for the ISRTB SCIF. For this work I received the ***Mission Excellence Award*** in 2006.
* **ABL (**Air Borne Laser) – Sr. Software Engineer: Developed and enhanced target scheduling software.
* **Pico-Sat Constellations** – Sr. Software Engineer, Developed prototype constellation management software with C++ and Ruby on Rails.
* Zero Lock Laser Gyro – Main Test Program (ZLG-MTP), Sr. Software Engineer: Port the 20 year old Windows QA program ZLG-MTP, written in 16-bit Windows-3 C++ to 32-bit Linux. Final code base was multiplatform targetable.

10/2006 – 12/2007 **Stanford University,** Consulting Professor in Aeronautics and Astronautics dept.

* Under the supervision of Professor Emeritus Bob Twiggs.
* I presented lectures covering programming and integrated debugging for embedded systems written in C.

3/2001 – 10/2003 **Next Engine Inc.**, Santa Monica, CA. Sr. Software Engineer, Group Leader.

I was Lead Engineer for the “Mesh Generation and Image Analysis” Group, managing software engineers. I wrote and maintained software in C++ to perform MRI analysis on 3D data. Additionally, algorithms coded included Delauney Tessellation, 3D Feature Analysis, Heuristic Grid (2D & 3D) Analysis, Hole Filling, Spike Filtering, Symmetry Enforcement, and Alignment with known and unknown perspectives.

I made presentations to funding partners and potential corporate partners. Worked with executive staff to manage and maintain development schedules and deadlines. Granted a patent for an algorithm I designed and implemented: “*An Apparatus and Method for Point Cloud Assembly*”, Inventors: Moore et al (Ronald W. Moore, Peisheng Gao, and Mark S. Knighton), U.S. Patent Number is 6,701,006.

[NextEngine · 401 Wilshire Blvd Fl 9, Santa Monica, CA 90401; (310) 883-1800]

10/1997 – 1/2001 **Walt Disney Internet Group**, North Hollywood, CA. Sr. Software Engineer.

9/2000 – 1/2001 **Go.com (formerly InfoSeek.com)**

* Member of the Core Portal Engineering Group.
* Updated the Topic Object library, installing fault tolerance, and allowing search resolution from an ODBC database or WebAPI service, as part of the Search Engine Support Team.

10/1997 – 9/2000 **Disney Online**, Group Leader, E-Mail solutions

* Designed and developed several generations of e-mail solutions for 500K users.
* Set up stress test lab for analyzing large commercial e-mail solutions.
* Designed and implemented multiple web page interfaces for accessing existing disneyblast.com e-mail services. Solutions presented utilized technologies including: Active-X server extensions, ASP, HTML, Java, JavaScript, and Visual Basic.
* Wrote e-mail status-monitoring tool, tracking real-time traffic statistics, and automatically generating and e-mailing reports.

[500 S. Buena Vista St. Burbank, CA 91521; (818) 560-1000]

5/1996 – 8/1997 **Film Roman**, North Hollywood, CA. Lead Project Engineer.

I managed a group of engineers and developed software for a new video game running on the PC and Sony PlayStation.

2/1990 – 5/1996 **Philips Media**, Los Angeles, CA. Project Manager, Lead Software Engineer.

1/1994 – 5/1996 **Title Development**

* Managed an engineering group that developed production titles and created suites of software tools for the Sony PlayStation, PC & Mac CD-ROM, and CD-I (precursor of the modern DVD).
* Software developed was sold to the consumer market, and ranged from development tools used to master CDs, to production titles utilizing expert systems, and real-time MPEG video branching and audio synthesis.
* I developed operating system drivers embedded in interactive CDs (a.k.a. CD-i, now DVD) and CD-ROM players. Some of the low level functions (kernel operations) were ROM’d and are still used in modern interactive, audio/visual players.

2/1990 – 12/1993 **Developer Support**

* Ran an office of engineers and support staff including test engineering, technical writing and customer support. Liaison between project engineers and executive officers. Assigned tasks and assisted in setting and maintaining schedules.
* Wrote self-installing driver updates and other embedded software for CD-i players
* Assisted in bringing Compact Disc Interactive (CD-i) titles to completion by writing new code and debugging production code.
* Ported development tools to Sun, Macintosh and PC environments

5/1983 – 2/1990 **Logicon / RDA (now Northrop NGIT)**

10/1987 – 2/1990 contracted to **Jet Propulsion Laboratory (JPL)**, Pasadena, CA; Sr. SW Engr.

* R&D distributed DB, networking and training systems within larger Command, Control, Communications, and Intelligence (C3I) systems:
* **JTIDS *-*** Joint Training and Integrated Data System: for the Army.
* **GDSS** - Global Decision Support System: for the Military Airlift Command.
* **TACCIMS** -Tactical Command & Control Integrated Management System.
* **TACCS-K** - Tactical Command & Control System, Korea.
* **ASAS** (ISR project) - All Source Analysis System.
* Worked in the field to support military exercises at U.S. bases in America and Europe.

4/1983 – 10/1987 **Operating Systems Inc. (OSI)**, Woodland Hills, CA; Computer Scientist.

R&D Signal Intelligence (SIGINT) SW for Defense Intelligence Agency (DIA) in C, LISP, Prolog, and SmallTalk. Projects contributed to include **PeaceKeeper** and **MEDLARS** distributed DB for the National Library of Medicine: contributing author.

**Memberships:**

* IEEE
* National Academy of Science (NAS) Science and Entertainment Exchange.

**References:**

Frederick Nordby

nVidia

Friend

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Bob Twiggs

Friend, mentor, teacher, supervisor

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Josh Schoolcraft

Friend, worked together on student projects at Stanford

332M - Communications Networks

Jet Propulsion Laboratory

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