

# Jacob Udel

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## Career Intention

***Skilled Software Developer seeks to move from contractual work to permanent dedication to, and growing talent in, a single company, in either an in-person, virtual, or hybrid work setting.***

## Software Development

*Web Based Technologies / Modeling & Simulation / SQL Design / Remote Sensing*

- Developed/trained Neural Networks to analyze LANDSAT imagery to produce land use/land cover maps.
- Supported, maintained, and upgraded an image-based database to analyze animal populations (manatees and wild horses).

## Technical Expertise

- Maintenance and repair of electronic systems, data gathering and management
- Programming and scripting languages: C#, Python, Node.js, VB, Dynamic HTML, C++, and JavaScript.
- Relational and object-oriented database design, neural network-based pattern recognition systems, data modeling tools and methodology. Familiarity with Agile SDLC and Git.

## Relevant Professional Experience

**Freelance Software Engineer and Web Designer**, Fort Collins, CO 15yrs to Present  
Currently providing Network implementation and management, application and website design for several regional companies.

- <http://www.maddcastings.com>
- <https://solaradoenergy.com>

**Project Software Engineer**, Johnson Controls Inc., Cape Canaveral, FL 1yr 6mos  
Assigned to the United States Geological Survey in Fort Collins, CO

- Team-worked the design and development of a photo-based visual identification database of Manatees used to study their population dynamics.
- Maintained current operations on a Microsoft Access database while designing and implementing a migration to a distributed SQL Server database which shared data across multiple agencies and jurisdictions with replication and backup occurring over multiple networks.

**Software Engineer**, A4S Technologies, Loveland, CO 3mos

- Team-worked the development and testing of digital video surveillance systems for law enforcement.
- Created software to take NMEA-formatted data from GPS receivers and parse it in real time in order to provide metadata for video streams such as time stamps and other geospatial data.

**Project Software Engineer**, VOLT Management Corp., Orange, CA 1yr 6mos  
Assigned to Hewlett Packard in Fort Collins, CO and Agilent Technologies, Inc. in Loveland, CO.

- Development and release of installation program for the TS-5400 industrial automotive test system.
- Lead R & D support for the SGDU marketing department for code level driver and TS-5400 application support of the TS-5400.
- Responsible for the testing, maintenance and repair of the Concord and Rockwood workstation graphics drivers and adapters for Hewlett Packard.
- Establish benchmarks using several industry standards including Microsoft Windows WHQL certification.
- Ported UNIX source code of various graphics functionality tests to the Windows NT platform.

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### Relevant Professional Experience (cont'd)

**Project Senior Developer**, Intelligence Technologies LLC, Bellmore, NY 6 mos

- Transitioned the company to Object-Oriented technology and methodology.
- Delivered a proposal for lifecycle product development utilizing COM/DCOM, ADO, SQL 7.0, Visual Modeling (Rational Rose, Visio Enterprise, etc.), and Documentation and Requirement Management (using elements of Microsoft Solutions Framework, and Rational Unified Process).

**Consultant**, Baltimore County Government, Towson, MD 5 mos

- Designed and implemented a database and LAN to process case management/workflow for **Child Protective Services** and **Out of Home Placement Services**.

**Project Software Developer and Support Engineer**, Software Consortium, Inc., Towson, MD 11 mos  
Assigned to **GE Capital** and **UPS-IS of Maryland**.

- Co-developed an internet product order system at GE Capital utilizing Microsoft NT Server, SQL Server 6.5, IIS, Active Server Pages, and Visual Basic 5.0, and Visual InterDev, UDP & TCP/IP.
- Provided Third Tier Support for the UPS Online Office software package. This involved Microsoft platform and telecommunication trouble-shooting as well as C++ analysis and debugging.
- Authored and provided full life-cycle development of "VerCheck", a software tool that would search and report on version information (size, creation dates, build flags, etc.) of DLL's and executables.

**Software Developer**, OT SPORTS (ABC Sports, LLC), Hunt Valley, MD **Perm** 1 yr

Acquired, programmed, processed, edited, rendered 2D and 3D sound for ABC Sports Presents line of computer games for Windows 95 including Monday Night Football, College Football, and other simulations.

- Designed and implemented sound rendering DLL to manage over 2,000 separate digital audio files using DirectSound and QSound for 3-dimensional, multi-channel, low latency sound playback.
- Implemented look-up based natural language system capable of constructing sentences using contextual state information from the games to produce real time commentary.
- Designed and implemented the setup program using InstallShield, which addresses version control, system driver files, and the Windows 95 registry.

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### Education and Certifications

**Bachelor of Science, Interdisciplinary Studies**, University of Maryland, Catonsville, MD, 1996

**Thesis-based Concentration in Computer Science**, Physical Geography, and Physics: "The Application of an Artificial Neural Network to Produce Land Use/Land Cover Maps from Remotely Sensed Imagery".

- **Microsoft Certified** in SQL Server 6.5 Implementation
- FCC General Radiotelephone License with a Ship's Radar Endorsement, license #PG-4-1738.
- Certified to install and maintain C-QUAM AM stereo systems by Delta Electronics, Inc.
- Associate Certified Electronic Technician, International Society of Certified Electronic Technicians. Certified in Consumer Electronics. Registration #AC-6522.
- Electronic Engineering Technology Curriculum-RETS Electronic School, 1983.