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| **globe2** | Michael P. Murphy  **2823 Orchard Lakes Drive**  **Baldwin, MD 21013**  **1-856-261-5829**  [**http://www.linkedin.com/in/mpmurphy1**](http://www.linkedin.com/in/mpmurphy1)  [**mike.p.murphy@comcast.net**](mailto:mike.p.murphy@comcast.net) | |
| **ACADEMIC ACHIEVEMENTS AND PUBLICATIONS:**   * **MS: Geospatial Information Sciences (GIS); University of Maryland, College Park; 2019** * **BS: Surveying Engineering and Geodetic Science; The Ohio State University; 1994** * **Professional Training**   + ArcGIS Enterprise Configuring a Base Deployment: 2019   + Developing Extensions to EWPMT via SDK (initial Java/OSGI release): 2019   + Sharing of Geospatial Layers with ArcGIS Enterprise: 2018   + Application integration of EMPIRE RF propagation: 2018   + Java-based Platform Integration with RaptorX C2 SDK: 2018   + Open Source Web Design and Development in HTML5/jQuery: Thinkful.com: 2013   + MCTS Windows App Development with Microsoft .NET Framework 4: MS 70-511; 2013 * **Publication Co-Author**: Validation of an Analytical Urban Propagation Model: <http://ieeexplore.ieee.org/document/7795413>: 2016 | | |
| **CLEARANCES:**   * Security Clearance: DoD TS/SCI: (currently Active) * Security Clearance: DoD TS/SCI 1997-1999 | | |
| **EXPERIENCE:** | | |
| 10/2016 – present | | **Booz Allen Hamilton (BAH);** Aberdeen Proving Ground, MD  *Principal Software Engineer* |
| * Software architect of US Army spectrum analysis and frequency management (SA/FM) modeling and simulation engine, deployed for electronic warfare (EW) C4ISR. Designed and developed key XML, data model and structuring, RF propagation, and parallelized workflow for performance. * Subject Matter Expert (SA/FM and GIS) and project Team Lead supporting US Army Electronic Warfare Modeling and Simulation software and data products. Lead software integrator of US Government-developed SA/FM systems and data into the US Army’s central EW planning application. * Development of ESM/EW software requirements, transforming them from concept to prototype to technology readiness for transition to US Army warfighter C2/geospatial systems and data. Developed systems using Agile SDLC via Sprint/Scrum processes and tools, using Atlassian Suite   + Implements: .NET(C#), Java, JavaScript, C, C++, Python, SQL Server, HTML5, GIS (ArcGIS, QGIS, GeoServer, WorldWind Java, GDAL), XML/XSD, MinGW with OpenMP, CMake, VS Code, MSVS, Eclipse, Code::Blocks, Android Studio, NSIS, Atlassian DI2E (Jira, Git, Confluence, and SVN) | | |
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| 08/2017 – 12/2019 | | **University of Maryland, College Park**  *MS GIS Student* |
| * 4.00 GPA: Candidate: ESRI Development Center Student of the Year 2019 * Coursework and topics:   + Spatial Analysis: in ArcMap, ArcPro, QGIS   + GIS Development with Python: Arcpy and ArcGIS AP   + Full Stack Web Development: Bootstrap, JavaScript, jQuery, PHP, SQL, Google Maps   + Big Data Analytics for GIS: Analytic methods and ML in R and ArcGIS   + Open Source GIS: QGIS, PostGreSQL/PostGIS, GeoServer   + Digital Image Processing and Analysis: Analysis in ENVI and ArcGIS   + Mobile GIS Development: AngularJs, Ionic, JavaScript/jQuery, PHP, mySQL, Google Maps   + Internet GIS Infrastructures: ArcGIS Online/Enterprise, MapBox, Leaflet, AWS   + Spatial Database Systems: PostGreSQL, Oracle Spatial, GeoDatabase   + Capstone: Web GIS Application: ArcPro, ArcGIS Online, Ops Dashboard, ArcGIS API for Python, PHP/SQL | | |
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| 08/2013 – 10/2016 | | **Science Applications International Corporation (SAIC);** Aberdeen Proving Ground, MD  *Senior Software Engineer* |
| * Spectrum Analysis & Frequency Management (SA&FM) Software Engineer: Performs design, development, diagnostics, and deployment of US Army Electronic Spectrum Manager (ESM) planning and analysis application. * Integration of US Army SA&FM solutions within .NET 4.5 (C#), C++, Forge.mil, Geographic Information Systems (GIS), Open Geospatial Consortium (OGC) compliant data sources, Java, and XML, based on transformation of operational to system requirements. * Develop next generation urban propagation modules, executing concept to code. * Evaluation of improvements to processes, execution, and tools used to maintain branch level software development life cycle.   + Implements: C#, .NET4.5, MSVS 2012, Forge.mil, SVN/Tortoise, NASA WorldWind, ArcGIS 9.2 and 10.2 (Desktop, Engine), NetBeans | | |
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| 01/2012 – 08/2013 | | **QED Systems, LLC;** Aberdeen Proving Ground, MD  *Software Systems Engineer* |
| * Provide technical direction to the analysis, design, and integration of a tactical US Army Company computing environment consisting of sensor systems, tracking systems, geospatial and visualization systems and cloud compute nodes into the AI TECD program. Extensive interaction with technical and user community for the solicitation and review of technical, system, and user requirements. Developed and conducted numerous technical presentations in support of both individual product capabilities, and overall TECD vision and scope * Provide systems engineering support to development of joint MC and AI TECD program definition and deliverables, such as the system requirements, CONOPS, functional specifications, interaction diagrams, system development process, integrated master schedule, project development plan to span multiple TECD projects. Development and management of SoS interaction diagramming for AI TECD workflow products.   + Implements: Microsoft Visio, Project, Powerpoint and Office suite. Some use of DOORS, Seapine Suite, numerous OS SysEng products, VMWare, CentOS, MS Visual Studio .NET 2010/2012, WinForms, Eclipse, Android SDKs | | |
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| 08/2004 – 01/2012 | | **ManTech International Corporation:** Belcamp/Aberdeen Proving Ground, MD  **formerly Sensor Technologies, Inc. (STI):** Red Bank, NJ  *Software Developer/Project Manager* |
| * Received STI Outstanding Achievement Award 2007   *Developer (GIS Specialist)*   * Development of requirements, design, source, and tests of an international Army telecommunications system. Implemented 2D/3D GIS-based tracking and messaging system. Integrated multiple GIS, Commercial C2, Foreign Military C2, and Network Engineering software. Data conforms to MIL-STD-2525B and MIL-STD-6040/6017 messaging where appropriate. Extensive interaction with both US and foreign military specialist for requirements solicitation.   + Implements: C#, XML, WinForms, XAML, WPF, Castle, WCF, ADO.NET, SQL Server 2005/2008/2010, Windows Server 2003, VMWare, some ASP.NET and WS interfacing, ESRI ArcGIS 9.3.1 (Desktop, ArcObjects .NET, MOLE, Military Analyst, Geodatabase), SitaWare 5.x, IRIS Messaging Suite, AGI .NET 3D Components 9.x, AGI STK 9.x. * Development, design, maintenance, and testing of US Army situational awareness and sensor intelligence interface. Acted as SME for GIS enhancements. Designed, developed, and tested layered raster datasets for aerial imagery mapping system. * Developed automated coding of imagery and vector data customizations, geodetic transformations, spatial analysis, and reporting. * Designed, developed, and tested extensions for Publish and Subscribe System, demonstrating .NET to Java interoperability, Windows, and Web-based GIS. * Developed complex symbology, custom and MIL-STD-2525B data for module of Distributed Common Ground System-Army.   + Implements: C#, WinForms, ADO.NET, and SQL Server 2000 and 2005, MFC, Visual C++, Visual Basic, XML, DOM, VBA, ArcGIS 9.x (Desktop, ArcObjects .NET, MOLE, Military Analyst, File Geodatabase, GeoProcessor, ArcIMS, ArcXML, ArcSDE) * Design and development of cross platform Situational Awareness system for First Responder user community.   + Implements: Open Source OpenMap, ArcGIS 9.1 ArcObjects, Java Swing, some Web Services and PostgresSQL, Eclipse 3.1, Netbeans 5.0. * Acting subject matter expert for geospatial/GIS software integration and data management to USG and International organizations. Provided symbology development for integration of various raster, vector, and elevation data sources. Directed both in-house staff and multiple commercial product vendors through development. Extensive travel throughout the US, Northern Europe, and the Far East.   *Project Manager*   * Management of development 5-8 team personnel and financial resources over 3-5 simultaneous software development projects. Developed templates for MS Project based scheduling, tracking and Earned Value Management. Cost burndown matrix developed and correlated to scheduling. Provided customer interface for project status, issue tracking, quality assurance, and informational briefings. * Managed migration of product and team proficiency to .NET framework. * Solicited customer requirements for software upgrades to mapping data, sensor interfaces, and GIS integration. Management and decomposition of requirements. Generated artifacts containing User and Technical Requirements, Use Case Models, Design Models, Test Descriptions and Descriptions.   + Implements: Rational Requisite Pro, Rational Rose, MS Office, MS Visio * Contribute to technical development of company-wide System Development Process to CMMI Level-3 and ISO 9000:2001 standards. Key development lead to produce artifact evidence for certification of company-wide Quality Assurance Process. * Full implementation of company-wide defect tracking system for multiple projects, requiring major customizations of Test Track Pro. Defined various development level templates and processes. System administration of company wide use of Test Track Pro and Visual Source Safe. | | |
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| 12/2000 – 08/2004 | | **Siemens Corporate Research (SCR: c/o Aerotek Inc.)**; Princeton, NJ  *Software Developer: Contractor* |
| * Design, develop, debug, document, and test 2D/3D medical image processing and analysis software, written in Visual C++. Volumetric, signal analysis, and flow calculations interpreted from white papers to product level code using UML in Rational Rose. GUI objects developed within MFC framework. All components developed under Siemens *syngo*© application framework and Rational ClearCase for source control. Some use of OpenGL. | | |
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| 06/2000 – 12/2000 | | **ClearLogic, Inc**; Haddonfield, NJ  *Software Developer/Project Manager* |
| * Provided main customer contact relating to individual project management and deliverables. Engineering design and implementation of various web-based applications in JSP/HTML | | |
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| 12/1998 – 06/2000 | | **Telcordia Technologies (formerly Bellcore)**; Piscataway, NJ  *Software Developer: GIS Specialist* |
| * Active in design, prototype, code, and unit test phases of development of 3-tier GIS application. GUI components developed in VB 6, ESRI ArcGIS 8.0 framework, Oracle, and Visual C++ 6 | | |
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| 06/1997 – 12/1998 | | **Lockheed Martin**; Fort Washington-Valley Forge, PA/Moorestown, NJ  *Software Develop/Tester* |
| * Development of GIS-NT application using VB5, ESRI-ODE Objects/ActiveX Controls, Arc/Info7.x framework. Test procedures written for US Army acceptance Testing. Training of US Army personnel. Analysis modules written in C++ on windows and Navy operating systems. | | |
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| 11/1994 to 05/1997 | | **Adams, Rehmann, and Heggan**; Hammonton/Hamilton Twp, NJ  *GPS Survey Technician* |
| * GPS surveys performed using Trimble 4000SSE receiver’s w/support software for photo mapping projects, construction site, traverse, and geodetic control. Conventional surveys run with Leica total station, theodolite, or level. Some user written program in C/C++ for data conversion. | | |
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| 06/1994 to 09/1994 | | **Woolpert Consultants**; Dayton, Ohio  *GPS Technician: GIS Division* |
| * GPS field surveys using Trimble 4000SSE receivers and post-processing software for establishing geodetic control for photo mapping projects, GIS monumentation, and traverse applications. | | |
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| \*05/1993 to 06/1994 | | **Ohio Department Of Transportation**; Columbus, Ohio  *\*CO-OP Student (part-time): ODOT Department of Aerial Engineering* |
| * Aerial photo interpretation, mosaic construction, and historical research for private and government site assessments, using available photo, topographic, and historical mapping. Field surveys using various GPS receivers. | | |
| **RELEVANT TECHNICAL SKILLS:**   * **Programming Languages:** .NET5 back to 1.1 (C#, VB.NET), Java, jQuery, JavaScript, CSS, HTML4/5, Bootstrap, Python 2/3, WinForms, ASP.NET, Visual C++, Visual Basic (v6, 5, 4), VBA, COM, MFC, C, C++, SQL, ASP, JSwing, XML, XAML, SOAP, Web Services, WPF, WCF. * **Database Platforms**: SQL Server 2017 to 2005; MS Access, PostGreSQL, mySQL, some Oracle Spatial. * **Development Tools**: Visual Studio Code, MS Visual Studio (2019 back to VSv4); Code::Blocks, NUnit; Netbeans 5.0; Eclipse; JUnit; JDK1.4 &1.5, SVN/Tortoise, JIRA, Git/GitHub, Visual SourceSafe, SurroundSCM, ClearCase, some CVS and Anaconda for Python. * **Development Support Tools**: Microsoft Project 2003/2013, VMWare, Rational Rose, Rational Requisite Pro; Test Track Pro, TopTeam, DI2E (Confluence/Jira/Stash), DOORS; JavaDoc; NDoc; MS Visio; MS Office; NM BoundsChecker and WinDebug, Visual SourceSafe * **Operating Systems developed on**: Windows 10 back to Windows XP, some use of Linux (Ubuntu and Red hat) some exp. with Win Server 2008/Vista, and Amazon Web Services * **GIS Development Tools:** ArcGIS up to 10.7: (Desktop and ArcPro, ArcGIS Online/Enterprise, StoryMaps, ArcGIS Engine, Developer.arcgis.com, Javascript API, ArcGIS Python API, arcpy), Google Maps, PostGIS, GeoServer, QGIS 3.x, Java OpenMap. Sitaware 4.x/5.x, IRIS Messaging suite, AGI STK 8/9; AGI 9.x 3D components, NASA WorldWind, some MapBox, Leaflet.js., Trimble GPS Suite; Corpscon; BM Geodetic Calculator. | | |
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| **SECONDARY TRAINING:**   * Project Requirements and Defining Scope: Insperity LMS; 2012 * SQL Server Development with .NET and XML: Learning Tree, Intl.; 2010 * Systematic SitaWare HQ 5.0 Integration: Systematic Software Engineering, Inc.; 2009 * AGI STK Comprehensive Modeling and Development Tools; Analytical Graphics, Inc; 2009 * Advanced .NET/ASP.NET 3.5 Framework Programming using C#; Hands-On Tech. Training; 2008 * Risk Analysis for Project Management; Software Management Solutions; 2007 * Managing Projects with Microsoft Project; Software Management Solutions; 2007 * Building Applications with ArcGIS Server 9.2 for.NET; ESRI; 2007 * Developing Applications with J2EE; UniTech; 2006 * Developing Business Requirements using Use Case Methodologies; SMS; 2006 * Java and XML Application Development: Learning Tree, Intl; 2005 * Building XML Web Services with .NET: Learning Tree, Intl; 2005 * ASP.NET; Enterprise Application Development, Siemens Corporate Research; 2004 * C# Building Object Oriented Applications, Siemens Corporate Research; 2004 * Introduction to Rational Clearcase; Siemens Corporate Research; 2001 * Web Development with XML; Telcordia Technologies; 1999 * Development with Visual Basic 5.0; Lockheed Martin; 1997 * Adv. C++ programming/ design with ACAD; Burlington County College; 1997 * Kinematic GPS surveying; Trimble Navigation; 1995 | | |