Ashley L. Kubatko

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Profile

2014 National Security President's Award Winner. Lead software developer and principle investigator in developing novel tools for Battelle to be first to market new and impactful software utilities. Creates innovative polished graphics and storyboards communicating complex ideas in easy to understand ways. Utilizes excellent leadership, teamwork, and communication skills, and demonstrates ability to work and communicate effectively with individuals at all levels of an organization.

Skills Summary

- Programming/Software Development
- Project Management
- Storyboard Creation
- Business Development
- GUI/Interface Development
- Staff Development
- Earned Value Management (EVM)
- Polished Public Speaker & Presenter

- Programming: C#, C++, JavaScript, HTML5, CSS, VBA, MATLAB, Python, R and Fortran
- Platforms: Experienced in .NET Framework development for MVC, Windows Azure, Windows Presentation Foundation (WPF)
- Software: Microsoft Office, GIS-based software ThinkGeo (WPF & MVC Edition) & ESRI ArcGIS, Adobe Photoshop, Adobe Illustrator and Camtasia

Professional Highlights

- Executing responsibilities as Project Manager and Principal Investigator/Lead Software Developer for Probabilistic Risk Informed Analysis (PRIA) software capability to support food industry decision makers
- Currently (FY15) managing > $1.8M in contract project work
- Part of an elite strategy team to develop a new long term structural adaptation and strategy for Battelle's $800M contract research business; Selected based on demonstrated high performance, intellectual curiosity, commitment and influence inside the organization
- Highly sought after individual across the institute for clean, innovative and appealing user interface designs which provide clients with greater access to the information and capabilities they desire;
- Participated in the Battelle Innovation Gathering which showcased the skills to perform market research used to define and understand a distinct market segment, and successfully pitch a product to create business opportunities in an emerging market
- While an undergraduate student, generated over $1M of revenue for an e-commerce site; Responsible for 25% e-commerce growth annually

Education

M.S. CIVIL ENGINEERING, The Ohio State University, Columbus, OH (2011)

Thesis: *Discontinuous Galerkin Finite Element Methods for Shallow Water Flow and Transport Developing a Computational Infrastructure for Mixed Element Meshes*

B.S. CIVIL ENGINEERING, The Ohio State University, Columbus, OH (2010)

Professional Experience

BATTELLE

Principal Research Scientist – CBRNE Defense, Threat Assessment Group (June 11 – Present)

- Executing responsibilities as Principal Investigator and Lead Developer for Probabilistic Risk Informed Analysis (PRIA) software capability to aid food industry decision makers in addressing food safety concerns; Leading and managing a team in performing technical efforts to develop complex mathematical models and a streamlined Graphical User Interface (GUI); Involved in developing the value proposition and taking part in

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commercial market engagement to form an offering for potential clients; within 9 months of inception PRIA realized its first commercial sale to Baiada Poultry (Australia's second largest poultry manufacturer)
- Principal Investigator and Lead Developer for Baiada's customization of PRIA
- Leading a software team in designing and developing an Economically Motivated Adulteration Vulnerability Assessment Tool (EMA VAT) which will aid grocery manufactures to quantitatively make informed decisions and develop mitigation strategies for EMA; developing a user friendly website interface overlaying complex mathematics allowing for rapid analysis and improved understanding of EMA threats.
- Lead a team of programmers in designing, developing, and testing a Microsoft® Surface tablet-based program that enables efficient recording, summation, and real-time analysis of data from a variety of canine evaluations. The Mobile Application for Canine Evaluation (MACE) program improves the efficiency and flexibility of test and evaluation execution, and enables real-time delivery of results.
- Task Lead for desktop capability development tasks under the Best Estimate / Assessment of Risk (BEAR) program that aids US Air Force staff in analyzing the risks of various courses of action against radiation exposure; effectively managed schedule and budget through the use of Earned Value Management (EVM) concepts
- Participant and second place recipient in the 2012 Battelle Innovation Gathering competition; demonstrated the skills to perform market research to define and understand a distinct market segment; successfully developed and pitched a product with limited resources which served as a marketing tool to better communicate the product vision to potential clients
- Collaborating on a multi-disciplinary team in various mathematical modeling efforts, largely supporting the quantification of the threat of terrorism to the US homeland; effectively applying skills to develop, implement, analyze, and apply numerical methods to quantify the probability of harmful effects to individuals or populations from terrorist attacks.
- Supporting the writing and reviewing of final documentation deliverables which are delivered to federal government interagency stakeholders and clients

- Active DoD SECRET Clearance

THE OHIO STATE UNIVERSITY

Graduate Research Associate – Dept. of Civil & Environmental Engineering (July 10 – June 11)
- Graduate studies funded through a $1.6M National Science Foundation project, *Collaborative Research: Hurricane Storm Surge Modeling on Petascale Computers*
- Developing, implementing and testing quadrilateral/hexahedral elements into an existing discontinuous Galerkin finite element code in two and three dimensions to examine the efficiency and accuracy of the calculations against triangular/triangular prism elements as well the results obtained by mixing the element types; These techniques are being applied in the context of the shallow water equations
- Constructed efficient (in some cases optimal) cubature rules for numerically evaluating volume integrals over triangular prism finite element domains; These rules will contribute exceptional efficiency in the calculation phase of the finite element code, which will in turn provide a significant cost savings when studying large scale domains
- Presented a technical poster at the International Workshop for Multiscale (Un)-Structured Mesh Numerical Ocean Modeling on the topic of Discontinuous Galerkin Finite Element Methods for the Shallow Water Equations Using Mixed Meshes; Presentation held at the Massachusetts Institute of Technology (MIT), August 2010

OHIO DEPARTMENT OF TRANSPORTATION (ODOT)

Engineer Intern – Office of Innovation, Partnerships, & Energy (Jan 09 – June 10)
- Worked on a project team which successfully won a $1.6M renewable energy grant; The proposed green energy project is to install wind turbines and solar panels to power rest area facilities; The power output will be monitored over a period of time, with a long term goal of implementing these technologies to power all of ODOT's 1200 facilities, therefore greatly reducing Ohio's carbon footprint and the electricity costs associated with these facilities

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- Performed Pavement Condition Rating (PCR) for all federally aided routes in 28 Ohio counties; PCR allows ODOT to develop a threshold for when pavement is in need of major or minor rehabilitation
- Analyzed PCR data to determine and document the rate of deterioration and distress for different routes and districts which allows pavement design to be analyzed and modified based on performance
- Partook in research and allocation of federal stimulus funding received by the state

Other Work Experience

CLINTONVILLE OUTFITTERS

Assistant Manager **(May 08 – Nov 09)**

- Best performing sales person
- Actively searched for products that meet the company's eco-friendly standards and increasing customer awareness of the products
- Created a revised floor plan to improve sales, customer experience, and product displays
- Executed an inventory control plan to improve accuracy and increasing profit margins
- Worked 35-40 hours per week while in school

ASPEN SKI AND BOARD

E-Commerce Manager & Hardgoods Buyer **(Nov 03 – April 08)**

- Developed e-commerce website for a brick and mortar retail store
- Generated over $1M dollars of revenue
- Organized an efficient product shipment system
- Responsible for over 25% growth annually
- Work 40+ hours per week while in school

Honors & Awards

- National Security President's Award Recipient for Fiscal Year 13 (awarded February 2014)
- Battelle Innovation Gathering (BIG) Competition, Second Place, June 2012
- Outstanding Performance Award, Chemical Terrorism Risk Assessment Team, August 2012
- Outstanding Performance Award, Best Estimate/Assessment of Risk, January 2013
- Outstanding Performance Award, CTRA Lite Desktop Tool, July 2013
- Outstanding Performance Award, PRIA, September 2013
- Outstanding Performance Award, TARA, August 2014
- Outstanding Performance Award, PRIA Shelf Life Modeling, September 2014
- Outstanding Performance Award, Vapor Intrusion Risk Assessment, September 2014
- Outstanding Performance Award, CCUS, April 2015
- Outstanding Performance Award, Project Delivery, June 2015
- Outstanding Performance Award, Contributions to the PRIA Program, September 2015
- 2013 Battelle Women's History Month Honoree
- Member, Chi Epsilon (χε), The National Civil Engineering Honorary
- Member, National Society of Collegiate Scholars (NSCS)
- College of Engineering Dean's List, 7 Quarters (greater than 3.5 GPA)

Affiliations and Professional Memberships

- Secretary, American Society of Civil Engineers (ASCE), The Ohio State University Chapter, 2009-2010
- Member, National Society of Professional Engineers (NSPE), Ohio Society of Professional Engineers Chapter (OSPE)