

# ROBERT P. CHURCHILL

CBAP, PMP, CSM, CSPO, CSD, Lean Six Sigma Black Belt

bob@rpchurchill.com

linkedin.com/in/robertpchurchill

Kissimmee (Orlando), FL

412-523-0188

## **BUSINESS ANALYST / PROCESS ANALYST / PRODUCT OWNER**

Exceptional process analyst who has completed software development, analysis, architecture, simulation, modeling, control system, and process improvement efforts at scores of facilities worldwide. Applies deep analytical skills to understand, map, quantify, and document complex operations. Applies software engineering skills in iterative, Agile fashion to develop, manage, and deliver robust and efficient solutions in many industries including manufacturing, inspections, insurance, health care, logistics, and maintenance.

### **Core Competencies: Analysis and Software Engineering**

Systems Analysis	Requirements Engineering	Operations Research
SDLC / Scrum / Agile / Waterfall	Process Improvement	Project/Program Management
Monte Carlo Analysis	Reliability Engineering	Process Mapping
Process Automation	Six Sigma Analysis (Quality)	Lean Analysis (Throughput)
System Architecture	Multi-Tier & Web Architecture	Inter-Process Communication
Real-Time Computing	Industrial Control Systems	Computer Simulation
Interactive Computer Graphics	User Interface Design	Testing / V&V / Acceptance

### **Certifications**

Certified Business Analysis Professional (CBAP) #CBAP48092

Project Management Professional (PMP) #1284485

Certified Scrum Master, Certified Scrum Product Owner, Certified Scrum Developer (Scrum Alliance)

~~Certified Lean Six Sigma Black Belt (CLSSBB) #VIL020684 (lapsed Jan 2018)~~

### **Accomplishments and Benefits Realized**

Improved operations and procurements against Iron Triangle constraints of Cost, Time, and Quality.

Effective analysis and decomposition led to robust, flexible, modular solution designs.

Detailed data collection, analysis, and conditioning enhanced use for system inputs and outputs.

Graphical process maps and interfaces allowed more accurate control and situational awareness.

### **Languages and Tools**

C/C++, JavaScript, Node.js, HTML/CSS, PHP, MySQL, Java, SQL, FORTRAN, Pascal/Delphi, SLX, FileNet WorkFlow. Word, Excel, PowerPoint, Visio, Project, SharePoint, Jira, Rally, Confluence, Git

### **Experience**

**Universal Studios** - Orlando, FL (contracted through Hays)

2018

#### ***Business Analyst, Software Reverse Engineer***

Supported Scrum teams by applying knowledge of software engineering, management, governance, and configuration to document and improve microservices-based software stack and related DevOps processes.

- Documented process flows, CI/CD pipeline, and elements of end-to-end DevOps environment.
- Identified opportunities to improve software architecture, debugging and failure response procedures, documentation, and training.
- Designed unified interfaces for crowdsourcing detailed documentation of code and related data and communication flows, improving real-time situational awareness of the entire functional stack, and organizing documentation and support materials for all working systems.
- Reverse engineered software operations in multiple languages, but primarily in Node.js and the Loopback and Bluebird Promise libraries.
- Proposed and prepared demo for automated generation of animation of all process flows in a way that showed messages, data items, input parameters, and return values.

**Independent Developer and Process Analyst** - Kensington, MD

2015–2018, 2019

#### ***Business Analyst, Simulation Developer, Web Developer***

Refreshed and extended development, analysis, communication, and leadership skills through research, courses, books, meetups, Scrum and CBAP certifications, and website at [rpchurchill.com](http://rpchurchill.com).

- Created and edited questions for [AdaptiveUS](http://AdaptiveUS) business analysis training website.
- Gave presentations to many professional audiences and volunteered as mentor and consultant.
- Learned JavaScript, Java, PHP, MySQL, HTML/CSS, Node.js, and numerous development tools.

**RTR Technologies, LLC** (split from Regal) – Aberdeen, MD, Lexington Park, MD 2002-2015  
**Regal Decision Systems, Inc.** - Baltimore (Linthicum), MD, Lexington Park, MD

***Operations Research Analyst, Business Analyst, Software Engineer, Simulation Developer***

Applied elicitation, discovery, data collection, domain knowledge, software engineering, architecture, design, communication, and process analysis skills as part of Agile and Scrum teams to create and use process simulations in the United States, Canada, and Mexico.

Served as project manager for multiple analysis and development efforts and program manager for several logistics task orders: \$4.7M/year, 35 employees, 3 subcontractors, and a satellite office.

- All activities supported improved efficiency, cost, reliability, maintainability, robustness, and speed.
- Became expert in operations research and discrete-event simulation tools and techniques.
- Analyzed aircraft logistics support operations as part of team using the largest GPSS/H discrete-event simulation model ever written and additional ad hoc techniques.
- Performed full-scope Verification and Validation (V&V) of software system designed to manage entire fleet of Navy and Marine Corps F-18 series aircraft per MIL-STD-3022.
- Performed Analysis of Alternatives (AoA), Cost-Benefit Analysis (CBA) of high-volume processes.
- Reverse-engineered and specified redesign of major agency staffing model (27,000 staff, 100+ activities, 500+ locations) to improve accuracy and clarity, and incorporate business rules.
- Designed and built 3D pedestrian ingress/egress simulations with agent and threat behaviors.
- Built and used tools to simulate land border crossings on both sides of both United States borders.
- Created Medical Office Simulation tool to analyze and streamline operations in medical practices.

**American Auto-Matrix** - Pittsburgh, PA 2000–2002

***Senior Software Engineer***

Applied discovery, data collection, domain knowledge, software engineering, communication, and process analysis skills to update HVAC controller products and supervisory control software.

- Updated PC-based driver software and created installers for multiple MS operating systems.
- Managed software releases and version control.
- Ran technical support web forum to improve communication with direct customers.

**Bricmont, Inc.** (later acquired by Andritz) - Pittsburgh, PA 1994–2000

***Software Engineer, Control Systems Engineer, Simulation Developer, Process Engineer***

Applied elicitation, discovery, data collection, domain knowledge, software engineering, architecture, design, and process analysis skills to design, implement, and service Level 2 model-predictive supervisory temperature control and material handling systems for steel reheat and induction melting furnaces in locations all over the world.

- Completely re-architected and re-implemented Level 2 supervisory control software. Migrated department to faster/cheaper systems and introduced new development tools.
- Systems featured 1D and 2D real-time finite element thermal simulations, 2D and 3D GUIs, communications with other processes, and archiving and display of historical data.
- Systems improved steel quality and saved 10%+ on fuel costs.
- Commissioned numerous systems (of up to 50,000 custom lines of code and interfaces written entirely by me) in the United States, Canada, Mexico, South Korea, and Thailand, and served as site representative.

**CIScorp (Corporate Information Systems, Inc.)** - Pittsburgh, PA 1993–1994

***Business Analyst, FileNet Imaging Programmer, Process Engineer***

Applied elicitation, discovery, data collection, domain knowledge, software engineering, design, communication, and process analysis skills as part of Agile-like teams to design and implement FileNet document imaging systems for business process re-engineering projects in many industries.

- Benefits included improved time service and accuracy, and cost savings of over 30%.
- Business processes ranged from the overtime pay reporting for an engineering business unit to the entire disability insurance underwriting department at a major insurance company.

**Micro Control Systems** (contracted through IMC International) - Pittsburgh, PA 1993

***Control Systems Engineer***

Applied analysis and software engineering skills to update database and user interface of control system for soaking pits and reheat furnaces.

**Westinghouse** (*contracted through IMC International*) - Pittsburgh, PA 1989–1992  
**Software Engineer, Simulation Developer, Process Engineer**

Applied research, data collection, domain knowledge, software engineering, communication, and process analysis skills in cooperative, iterative teams to design and implement software to simulate fluid systems in full scope, real-time BWR and PWR nuclear power plant training simulators on multi-processor distributed architectures.

- Models ranged from single-phase, single component systems to complex, multi-phase, multi-component systems and included interactions with control panels, instruments, and environments.
- Created system to build model constants, interfaces, and documentation from acquired data.
- Built PC-based software simulation framework to develop and test concepts to be implemented on the delivered system.

**Sprout-Bauer** (*later acquired by Andritz*) - Muncy, PA 1988–1989  
**Process Engineer, Systems Analyst**

Applied discovery, data collection, domain knowledge, and process analysis skills to map flow and instrumentation systems, perform calculations for detailed heat and material balances, and recommend quality improvements for several types of turnkey mechanical pulping systems.

- Performed quality and operational audits at paper mills in the United States and Canada.
- Assisted in start-up and troubleshooting of instrumentation and process equipment.
- Used simulations and programmed custom tools to automate calculations.

### Military Service

**United States Army** - Fort Bliss, El Paso, TX 1984–1988  
**Air Defense Artillery**

### Education

**Carnegie Mellon University** - Pittsburgh, PA 1984  
**Bachelor of Science – Mechanical Engineering**  
Added concentration in computer science, real-time computing, and computer graphics.

### Patent

**US 6259071** ([link](#)) 2001  
Single-point temperature control system for a multi-section line furnace

### Organizations

**American Society of Mechanical Engineers (ASME)** 1994-present  
**International Institute for Business Analysis (IIBA)** 2017-present

### Volunteer Work

**Baltimore NodeSchool** – Baltimore, MD 2017-2018  
**Volunteer Programming Mentor**  
Coached new JavaScript programmers through online programming exercises.

**Advisory Committee** – Post University, Waterbury, CT 2015-2018  
**Industry Representative to CIS Program**  
Offered recommendations regarding soft skills, team dynamics, discovery, requirements, and tools.

**Ruby for Good** – Front Royal, VA 2016  
**Volunteer Programmer and Analyst**  
Four-day group project to implement web systems for various charities, including the National Zoo's Red Panda research program.

**Junior Achievement** – Pittsburgh, PA 1991-1993  
**Industry Advisor, Evening Program**  
Served program for two years in which high school students form and operate their own companies.