# Bob Cravens

## Professional Software Developer / Manager / Director

Innovative professional with a dynamic background in software engineering and application architecture. Seasoned leader adept at spearheading teams to develop and maintain cutting-edge full-stack solutions.

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## Profile

- ✓ Dynamic and results-oriented professional with a proven track record of providing strategic leadership in software engineering.
- ✓ Skilled in leveraging technological advancements to drive business process enhancements and deliver impactful solutions.
- ✓ Adept at leading cross-functional teams in the development and maintenance of robust full-stack solutions, ensuring high availability, scalability, and security for backend systems.
- ✓ Proficient in delivering clean, intuitive front-end interfaces that prioritize user experience.
- ✓ Experienced in utilizing data-driven insights to empower leadership and team members effectively, with a strong focus on optimizing software development processes through the integration of industry best practices.
- ✓ Demonstrated expertise in building integrations that efficiently extract and integrate data from diverse sources, and in the establishment and management of both on-premise and cloud-based servers.
- ✓ Competent in the establishment and management of on-premise or cloud-based servers.
- ✓ Expertise in optimizing software development processes by integrating industry best practices.
- ✓ Enthusiastic about continuous learning and staying abreast of emerging technologies to drive innovation.
- ✓ Proven track record as a senior-level Application Architect & Developer, adept in all facets of product development.
- ✓ Possess a strong foundation in engineering, science, and mathematics, enhancing problem-solving capabilities.
- ✓ Capable of thriving both independently and collaboratively within diverse team environments.

## Experience / Skills

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|---|---|---|
| Leadership | Strategic Thinking | Team Management |
| Project Management | Communication | Technical Proficiency |
| Problem Solving | Innovation | Risk Management |
| Change Management | Quality Assurance | Regulatory Compliance |

**Languages:** Python, PHP, C#, C++, Node, JavaScript, HTML, CSS, …
**Frameworks:** Laravel, Django, Flask, ASP.NET, Vue.js, React, Bootstrap, …
**Servers:** Nginx, IIS, Apache, MySQL, PostgreSQL, SQL Server, Redis, RabbitMQ, …
**CI/CD:** Bitbucket, Github, Gitlab, JIRA, Azure DevOps, Jenkins, Docker, …
**Integrations:** Active Directory, Workday, ADP, Azure, Stripe, MailGun, Digital Ocean, Twilio, …

## Work Experience

### Senior Manager Software Engineering
GenesisCare (formerly 21st Century Oncology)

Reported To: CTO, VP BI
Healthcare - Cancer Treatment

August 2015 - February 2024

- Designed and implemented Asset IQ, an internal web-based application, aimed at enhancing operational efficiency through intuitive dashboards and reports.
- Integrated disparate data sources within Asset IQ to offer comprehensive and integrated views and metrics, facilitating informed, data-driven decision-making.
- Asset IQ was utilized across multiple centers by diverse cross-functional teams, including RT, Physics, Engineering, and Dosimetry, spanning various organizational levels from individual contributors to division executives.
- Collaborated on the development of Adaptivo, a patient dosimetry application, focusing on architecting a modern and user-friendly web front-end to enhance user experience.
- Architected the design of Adaptivo's resilient processing pipeline, enabling support for asynchronous job queues and ensuring high availability of critical functionalities.
- Assisted in the deployment of Adaptivo into beta and production environments, providing support to various teams and ensuring seamless integration with existing workflows.

### Senior Manager System Analytics
Accuray

Reported To: VP Customer Support
Medical Device - Cancer Treatment

January 2014 - August 2015

- Conceptualized and presented a visionary data collection and reporting solution for the TomoTherapy and Cyberknife radiation oncology products to the Executive team to secure the funding to build an analytics team.
- Managed the end-to-end project lifecycle, including roadmap planning, backlog management, and capacity planning, while empowering team members to drive towards project milestones, ensuring successful project execution and delivery.
- Designed and implemented a unified, quasi-realtime data collection technology for TomoTherapy and Cyberknife products, enabling seamless data transmission from global installations to the data-warehouse, enhancing data accessibility and analysis capabilities.
- Developed an optimized data model for the storage of collected data, prioritizing fast reads for reporting purposes while maintaining acceptable write speeds, ensuring efficient data retrieval and analysis.
- Engineered a custom web-based dashboard and reporting solution (Up Center) tailored to provide role-specific views of the data, empowering stakeholders to make data-driven decisions. This solution facilitated troubleshooting, enabled proactive service opportunities, and facilitated remote service solutions, enhancing overall operational effectiveness and customer satisfaction.

### Research Software Manager
Accuray

Reported To: Director of R&D
Medical Device - Cancer Treatment

2011 - January 2014

- Led the development and research efforts to create innovative software applications aimed at enhancing operational efficiency and effectiveness for both internal and external customers.
- Spearheaded the development of TomoTherapy Quality Assurance (TQA), a user-friendly application designed to automate the collection and analysis of key metrics for machine QA within the HiArt system. This application revolutionized daily, monthly, annual, and as-needed testing processes, resulting in significantly improved operational efficiency and informed decision-making for medical physics staff.

- Pioneered the technical development of TomoLink, a cutting-edge application enabling remote diagnostics of the HiArt system. By automating publication of system data to a central data-warehouse, TomoLink provided invaluable proactive troubleshooting information, enhancing overall system reliability and customer support capabilities.

### Lead Applied Physicist
TomoTherapy

Reported To: Director of R&D
Medical Device - Cancer Treatment

2005 - 2011

- Led the development and research initiatives aimed at creating software applications to enhance operational efficiency and effectiveness for both internal and external stakeholders.
- Directed the development of TomoTherapy Quality Assurance (TQA), a user-friendly application designed to streamline the collection and analysis of critical metrics for machine QA within the HiArt system. This innovative solution facilitated a more efficient and informed approach to daily, monthly, annual, and as-needed testing processes for medical physics staff.
- Orchestrated the technical development of TomoLink, an advanced application enabling remote diagnostics of the HiArt system. By establishing a centralized data publishing mechanism to a Customer Support location, TomoLink provided invaluable proactive troubleshooting information, enhancing system reliability and customer support capabilities.

### Physicist
TomoTherapy

Reported To: Director of R&D
Medical Device - Cancer Treatment

2003 - 2005

- Played a pivotal role in enhancing the Quality Assurance processes for the TomoTherapy radiotherapy machine.
- Automated and streamlined the MVCT commissioning process. Eliminated the need for on-site visits by specialists by integrating commissioning into the manufacturing workflow. This optimized the manufacturing process, eliminated resource constraint, and reduced cost.
- Automated and streamlined the treatment planning commissioning process. Transformed a previously manual and time-consuming procedure requiring specialized expertise (Medical Physicist) into a streamlined process that reduced commissioning time from approximately 30 days to 2-3 days, significantly accelerating time-to-market.
- Led the development of hardware, software, and processes for dosimetric 'twinning' of the TomoTherapy machine to a pre-created gold standard Treatment Planning System model. This twinning system allowed production to ramp up by reducing the need for specialized expertise (Medical Physicist). The gold standard models removed “snowflake models” from the install base allowing for more efficient customer support.

## Education

### PhD (all but dissertation) Electrical Engineering, Minor Physics
University of Wisconsin - Madison

### MSEE, Electrical Engineering
University of Wisconsin - Madison

### BSEE, Electrical Engineering
University of Wisconsin - Madison