Contact

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Top Skills

Full-Stack Development

Agentic AI

Technical Product Management

Languages

Persian (Native or Bilingual)

English (Full Professional)

Certifications

PMI Agile Certified Practitioner (PMI-ACP)®

Certified Machine Vision Professional

P.Eng

BEKCHOFF TwinCAT PLC

Advance PLC Programming

Publications

Multimodal Interfaces

Baseline and Multimodal UAV GCS Interface Design

Perceptions of Temporal Synchrony in Multimodal Displays

Ethan Masnavi, [P.Eng, MASc, PMI-ACP]

Lead DevSecOps Product Owner @ Ford Motor Company | Leading the integration of automated vehicle software testing and simulation systems

Greater Kitchener-Cambridge-Waterloo Metropolitan Area

Summary

I am a technical product leader who has grown through a blend of software engineering, cloud architecture, and complex industrial systems design.

My career has taken me from hands-on industrial automation and controls engineering to full-stack development, and now to leading major DevSecOps and vehicle software initiatives at Ford Motor Company.

At every stage, I have been driven by curiosity and a desire to turn difficult technical challenges into practical solutions.

I am drawn to roles where technology, product strategy, and business impact intersect. Because I have worked across many layers of technology (both engineering and product roles), I bring an ability to connect teams, clarify complexity, and deliver solutions that scale.

Looking ahead, I want to continue shaping products and platforms where software, hardware, cloud systems, and agentic AI meet. These are the environments where my technical judgment, clear communication, and thoughtful product strategy can truly move organizations forward.

Whether I am working with engineering, finance, or cross-functional partners, my goal is always to support the effective delivery of value,

One of my core beliefs centers around the appreciation of diverse perspectives. I value the uniqueness of every individual, and I actively seek to build meaningful connections.

Experience

Ford Motor Company
4 years 4 months

Lead DevSecOps Product Owner
November 2024 - Present (1 year 2 months)
Waterloo, Ontario, Canada

As a Lead Technical Product Owner in the DevSecOps team, I lead a team of software developers in building a pivotal service that provides seamless access to virtual (simulation) and hardware test environments, transforming how vehicle software testing is conducted at Ford Motor Company. This service, akin to "Airbnb for test environments", enables software developers, verification and validation teams, and automation pipelines to reserve and utilize shared test resources, eliminating the need for costly, dedicated hardware allocations per team.

The service extends beyond static environments by introducing dynamic, cloud-based test setups tailored to diverse ECU software testing needs, provisioned on demand and seamlessly integrated into CI/CD workflows through robust API and CLI interfaces.

My cross-disciplinary expertise in software engineering, cloud infrastructure, and Kubernetes has been instrumental in driving technical architecture decisions, aligning cross-functional teams, and delivering a scalable & reliable solution. This initiative marks the first innovation of its kind at Ford in over 15 years, delivering measurable impact: improved resource efficiency, faster development cycles, earlier defect detection, and reduced risk of costly recalls.

Vehicle Software Update Technical Product Manager
September 2021 - November 2024 (3 years 3 months)
Waterloo, Ontario, Canada

In my role as a senior member of the technical product management team, I led transformative initiatives to modernize software release and integration systems, driving innovation, cost savings, and operational efficiency at Ford Motor Company.

The following is a summary of my key achievements in this role:

[+] Modernization of ECU Software Release Systems and Enablement of Software Factory:

Spearheaded the transformation of a 30-year-old manual software release process by introducing modern CI/CD, software release and versioning practices, enabling 100+ hardware teams to adopt streamlined workflows. This initiative laid the foundation of modernization of ECU software delivery and redefined Ford's software release framework, improving delivery cycles and integrating supplier-developed software into CI/CD systems. The result was faster, higher-quality over-the-air updates, enhancing Ford's ability to deliver cutting-edge software at scale.

[+] Cross-Platform Integration System Assessment and Optimization:

Performed a comprehensive evaluation of an unreliable cross-platform integration system intended to synchronize content across platforms and tools such as MagicDraw, JAMA, JIRA, and TestRail. Identified critical inefficiencies and recommended the discontinuation of a contract with the provider of the solution, resulting in $1.2M in annual savings for Ford Motor Company. Simultaneously spearheaded the assessment of a cloud-based alternative, leveraging Google Cloud expertise to prototype and validate its capabilities. Delivered a clear and comprehensive executive report with actionable insights, enabling leadership to implement a scalable and reliable integration solution.

ATS Automation, Illuminate Digital Solutions

Full Stack Software Engineer

February 2021 - August 2021 (7 months)

Kitchener, Ontario, Canada

As a member of the Illuminate digital solutions team at ATS, I contributed to the development of world-class software solutions catering to data collection, analysis, and reporting needs of sophisticated industrial automation equipment and production lines.

The following is a summary of my key achievements in this role

[+] Integration of an event-triggered industrial video capture system into the core product:

Led the integration of an event-triggered video capture system, originally developed by the R&D team, into the ATS Illuminate platform and transformed it into production-ready software. This enhancement enabled the platform to expedite troubleshooting in automated manufacturing systems by providing precise video insights. The system captures video at the exact point of interest, including pre-event and post-event footage at the time of a fault condition. This work advanced the platform's functionality, delivering value to users by enabling faster and more effective resolution of complex or intermittent manufacturing issues. I achieved this by establishing a close partnership with the R&D team and developing the functionality and required APIs in .NET, optimized SQL queries, and Angular JS-based user interfaces.

Angstrom Engineering Inc.
Senior Automation Systems Software Engineer
November 2017 - July 2020 (2 years 9 months)
Kitchener, Ontario, Canada

As a senior member of the software & controls engineering team, I played a pivotal role in the design and development of control systems and interface software for a wide range of equipment, robots and thin film deposition systems.

The following is a summary of my key achievements in this role.

[+] Development of Data Visualization Tool for Thin film Deposition Systems:

Developed and integrated a data visualization tool for Angstrom Engineering's thin film deposition systems, capable of handling process logs of varying durations (a few hours to several days long), and real-time visualization of live data. This innovative solution replaced labor-intensive manual analysis with an intuitive interface, significantly improving productivity and user experience for scientists and operators utilizing Angstrom Engineering's systems.

[+] Development of Drivers for High Accuracy Thin Film Deposition Sensors:

Developed driver software for high-accuracy thin film deposition measurement sensors, enabling Angstrom Engineering to integrate more reliable sensors into their core product platforms. Previously, the products relied on costly PCI Express cards to read sensitive data, which had bandwidth limitations that restricted the number of sensors per system. My software eliminated the need for these expensive cards, removing sensor limitations and significantly

enhanced scalability. This solution reduced costs, improved product efficiency, and boosted customer satisfaction, empowering Angstrom to deliver more versatile, high-performance solutions.

Sytrix Lab Technologies Inc.
Co-Founder
February 2016 - March 2018 (2 years 2 months)
Waterloo, Ontario, Canada

As the co-founder of Sytrix Lab, I led the development of a unique, flexible, and intelligent automated vision inspection solution targeting small to medium-sized manufacturers in the automotive, plastic injection, and pharmaceutical industries.

Sytrix Lab Technologies was an early-stage startup that developed a flexible, affordable, and intelligent automated vision inspection platform.

Under my leadership, the company secured significant funding by winning competitive startup contests, including prestigious awards from Velocity and AC JumpStart programs, backed by the University of Waterloo

By leveraging advanced PC-based control and vision systems, as well as real-time cloud connectivity, our automated QC system significantly reduced time and resource expenditures while enhancing quality control procedures. Despite this innovation, the company was discontinued due to funding challenges and personal matters among the co-founders.

Numalliance
Intermediate Control and Automation Systems Engineer
July 2015 - November 2017 (2 years 5 months)
Brantford, Ontario, Canda

I led the design and development of cutting-edge PC-based control software that transformed the performance of tube-bending CNC machines with up to 10 axes of motion. This software innovation significantly enhanced the efficiency and functionality of Addition's next-generation products, achieving a 30% improvement in average cycle times. Furthermore, I undertook extensive research in the realm of 3D (Stereoscopic) vision systems, culminating in the creation of detailed technical reports, laying the foundation for the development of a cutting-edge 3D vision system capable of inspecting the quality and dimensions of metal products.

ATS Automation Tooling Systems

Automation Designer, Machine Vision & Imaging (Junior & Intermediate)
June 2011 - July 2015 (4 years 2 months)
Kitchener, Ontario, Canada

As a Junior and then Intermediate Machine Vision Designer, I successfully completed numerous industrial vision projects. The vision systems I designed and integrated were embedded in advanced, customized machinery for pharmaceutical, automotive, and consumer goods production. I also led the design and integration of quality inspection machines requiring meticulous control and seamless vision system integration. My role encompassed end-to-end responsibilities, including quoting, concept development, system integration, and managing budgets and timelines. These efforts resulted in the deployment of highly efficient and reliable vision systems in world-class manufacturing environments.

DRDC

Research and development support associate (R&D)
January 2010 - July 2011 (1 year 7 months)
Waterloo, Ontario, Canada

Provided comprehensive technical reports and literature reviews summarizing available scientific papers and experimental studies in the field of multimodal human-machine interface design. This was done in support of a DRDC research and study program on the development of multimodal displays for controlling unmanned aerial vehicles (UAV). As the result of my studies, I proposed methods for designing a haptic interface that could be used by operators for improved control of UAV(s). In summary, this position required:

• Design and fabrication of microcontroller-based control circuitry for driving and testing haptic interface elements.
• Investigation and test of the efficacy of multimodal displays by executing well-documented scientific experiments.
• Publishing scientific papers and technical reports of the results.

CAREL (SABA KCIC)

HVAC and Building Automation Engineer, Technical Inside Support
September 2007 - September 2008 (1 year 1 month)
Tehran, Iran

Created and maintained experimental control systems to replicate customer technical issues at the company’s headquarter. This enabled assembly teams

to test fixes and solutions prior to releasing them to installation sites and customers. In summary, this role required:

• Support assembly teams in integration and testing the HVAC control systems in the field.
• Support sales teams and other field personnel with technical issues as necessary.

Omron Automation (Paykar Bonyan Sanat)
Automation Engineer Co-op
May 2006 - May 2007 (1 year 1 month)
Tehran, Iran

This was my first industrial experience in the field of industrial automation. After completion of a few PLC and HMI programming courses at OMRON, I was offered a co-op position to help new and existing customers with technical matters. My role was focused on helping clients with diagnosis and resolving control systems issues. I also conducted few tutorials and technical basic training courses for technicians and customers on the subjects of PLC and HMI programming. Preparation and writing technical course notes and knowledge-based documentation for various training courses were also part of my responsibilities. This position required:

• Technical knowledge about PLC and HMI programming and troubleshooting
• Patience and efficiency in remote support

Education

University of Waterloo
Master of Applied Sciences, Systems Design Engineering · (2009 - 2011)

Azad University (IAU)
Bachelor of Applied Sciences, Electrical Engineering,
Electronics · (2002 - 2007)