Ryan Allen

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Summary

Software Engineer with **12+ years of experience** in **full-stack development, developer tooling, and designing extensible systems**. Focused on delivering high-performance solutions that improve **productivity and end-user experience**, balancing **innovation with practical implementation**.

Experienced in **AI & LLM fundamentals**, including **reinforcement learning, neural networks, transformers, and generative models**, with applications in automation and intelligent systems. Passionate about **optimizing development workflows, leading technical initiatives, and aligning engineering efforts with business impact**.

Technical Skills

- **Programming Languages:** Python, TypeScript, JavaScript, Java, C
- **Frontend Technologies:** Semantic HTML for accessibility and SEO, advanced CSS for responsive and maintainable layouts, React, Storybook, Material UI, Highcharts, Nivo, D3.js
- **Backend & APIs:** FastAPI, Django, Django REST Framework, Tornado, Node.js, Elasticsearch
- **DevOps & Infrastructure:** Docker, Vagrant, nginx, AWS (EC2, S3, RDS, Elastic Beanstalk), GitHub CI
- **Data & Machine Learning:** PyTorch, NumPy, Jupyter Notebook, Cube

Professional Experience

Senior Software Engineer | **Nokia Deepfield** | 2020 - Present (4y, 5mo)

- Supporting a team of 15+ frontend engineers, improving tooling, workflows, and best practices for scalability and maintainability.
- Developing and maintaining a robust UI component library, embedding the design system and optimizing pixel-perfect, user-friendly interfaces.
- Building interactive chart components to support multi-dimensional data visualization for ISP/BGP traffic analysis and DDoS detection and mitigation dashboards.
- Currently expanding to full-stack development to modernize cloud infrastructure management system.
- Tech: TypeScript, React, Storybook, Material UI, Highcharts, Nivo/D3.js, FastAPI, Playwright, GitHub CI

Senior Software Engineer | <u>**Interactions (formerly Digital Roots)**</u> | 2019 - 2020 (1y, 3mo)

- Developed an AI-augmented customer service messaging platform, integrating early LLMs and NLP to classify and prioritize customer messages.
- Integrated with the Facebook API to facilitate real-time communication via Facebook Messenger.
- Developed AI-powered customer engagement solutions for major clients, including Ford Motor Company and Papa John's Pizza, improving customer support efficiency through response automation.
- Provided on-site Super Bowl support at Papa John's HQ, ensuring peak system stability.
- Tech: Node.js, Ember.js, MySQL, Elasticsearch, Docker Compose

Senior Web Developer | <u>**Mackevision Corporation**</u> | 2014 - 2015, 2017 - 2018 (3y)

- Member of a hand-picked R&D team, developing full-stack web applications to support a high-performance 3D rendering pipeline, including:
    - QILT (Quality Image Lookup Tool): Optimized visualization and rapid lookup of millions of 3D-rendered vehicle images for quality control, utilizing masonry image layout algorithm and keyboard navigation.
    - Material ID Library: Ensured material consistency across rendering stages via Django REST Framework and PyQt menu integrations in Maya and Nuke.
    - Aion (Project Management System): Studio-wide production tracking tool built with Django and AngularJS, with ftrack integration for budgeting and scheduling.
- Led the adoption of Git version control and thorough unit testing to improve code reliability.
- Tech: Django, Django REST Framework, PostgreSQL, React, PyQt, Docker, AWS

Senior Web Developer | <u>**Service.com**</u> | 2015 - 2017 (2y, 1mo)

- Led the planning, development, and deployment of a marketplace platform connecting homeowners and service professionals.
- Designed backend APIs supporting Android and iOS applications.
- Provided team leadership and mentorship, guiding junior developers and managing project roadmaps.
- Tech: Django, Django REST Framework, PostgreSQL, AngularJS, AWS (EC2, S3, RDS)

Web Developer | <u>**Coil Group**</u> | 2013 (8mo)

- Developed frontend interfaces with a focus on pixel-perfect design and cross-browser compatibility (supporting client systems back to IE7).
- Built a music player interface and audio/banner advertising system for a music streaming service, tracking impressions and clicks.
- Tech: HTML5, CSS3, jQuery, Django, Selenium

Junior Web Developer | CareTech Solutions | 2012-2013 (1y)

- Built frontend interfaces for DMC Hospital websites and internal intranet.
- Joined the product team to work on HIPAA-compliant R&D for the next-generation CareWorks CMS platform.
- Tech: HTML, CSS, jQuery, .NET

Education

Bachelor of Science in Software Engineering | University of Michigan - Dearborn | 2022 - Present (3y)

- Comprehensive coursework covering computer science, software architecture, algorithms, databases, operating systems, and computer networks, AI & machine learning, mobile application development, statistics, and linear algebra.

Associate of General Studies | Macomb Community College | 2012 (1y)

- Studies in computer programming, design principles, and illustration with a focus on building user-friendly software and intuitive digital experiences.

Volunteer Experience

Project Coordinator (Covid-19 Response Initiative) | Pingree Farms | 2020 (4mo)

- Organized a volunteer workforce to transform a community garden into a high-output Victory Garden during the Covid-19 pandemic.
- Applied process design and operational problem-solving, coordinating an unpaid, volunteer-driven effort.
- Developed workflow processes for planting, maintenance, and harvesting across 5 acres of crops.
- Partnered with Focus: HOPE to distribute fresh produce to Detroit families.

Event Organizer | Django Girls | 2015 (7mo)

- Planned and hosted a programming workshop introducing women to software development using the Django web framework.