

Luke B. Godfrey
Software Engineer • SupplyPike
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Resume Summary

I am a software engineer with over 10 years in programming. I have a PhD in machine learning, and have 6 years of professional experience working at a SaaS startup. In my current role as dev lead, I have collaborated with other engineers to design, code, test, and maintain a scalable, resilient end-to-end product using a microservice architecture.

I am adept across the tech stack. On a daily basis, I use TypeScript with NodeJS, NestJS, TypeORM, and React, along with supporting technologies including PostgreSQL, Redis, RabbitMQ, Docker, Kubernetes, AWS, and GitHub (including CI/CD pipelines with unit and integration tests in GitHub Actions). I also have experience in C++, Python, Java, Swift, Lua, Tensorflow, NumPy, and more.

In my role as product dev lead, I work closely with the product owner and stakeholders, bridging business requirements with engineering concerns to plan a product roadmap. I champion elegant solutions and coding best practices, drive issue resolution and long-term reliability, and mentor junior developers in how they approach design and implementation. I encourage open communication and collaboration both within my team and across product teams. Along with the product owner, I am responsible for balancing feature development, bug fixes, and technical debt in an agile environment.

Education

- Ph.D. in Computer Science, 2018
Emphasis in machine learning. University of Arkansas, Fayetteville, AR 72758
- M.S. in Computer Science, 2015
Emphasis in machine learning. University of Arkansas, Fayetteville, AR 72758
- B.S. in Computer Science, 2014
University of Arkansas, Fayetteville, AR 72758

Employment

SupplyPike, Software Engineer

2017 – Present

My current role (2020 – Present) is Software Engineer (Dev Lead) on the Document Explorer team. Working closely with the product owner, I synthesized market research to design and implement the product from scratch using modern frameworks built on NodeJS and React. The product uses a microservice architecture and integrates with third-party data sources to automatically fetch, tag/sort, and serve shipping documents for retailer suppliers. We use machine learning, image processing, and a number of other technologies, and have served millions of shipping documents retrieved from dozens of third-party data sources.

From 2017 – 2020, I primarily worked as a Machine Learning Researcher. In that role, I developed a machine learning pipeline that utilized recurrent neural networks to aggregate data and forecast sales and inventory for consumer goods. I implemented the system using Python, Flask, Tensorflow, Keras, and TypeScript using a microservice architecture. The system is now patented (U.S. Patent US-11334790-B1; see *Patents and Peer-Reviewed Publications* below).

University of Arkansas, Graduate Assistant

2014 – 2018

After earning my B.S. in Computer Science in 2014, I entered graduate school immediately and worked as a research and teaching assistant. As a research assistant, I studied machine learning and produced seven peer-reviewed publications, six of which I was the first author, and theses for my M.S. and Ph.D. (see *Patents and Peer-Reviewed Publications* below). As a teaching assistant, I was responsible for developing curriculum for undergraduate Computer Science courses, including Programming Foundations I, Programming Foundations II (Data Structures and Intro to Algorithms), and Programming Paradigms.

Self-Employed, Freelance Developer

I have always had an interest in computer programming – particularly video games – and at age 15, I developed my first small game and licensed it for the then-immense sum of \$500. Since then, I've continued working on hobby- and side-projects ranging from games to apps and websites. I have designed, tested, published, and marketed a few notable solo projects (see *Personal Projects* below).

Patents and Peer-Reviewed Publications

- Godfrey, Luke B. 2022. “**System and method for recurrent neural networks for forecasting of consumer goods' sales and inventory.**” U.S. Patent US-11334790-B1.
- Godfrey, Luke B. 2019. “**An Evaluation of Parametric Activation Functions for Deep Learning.**” In *Systems, Man and Cybernetics, 2019 IEEE International Conference on*. Bari, Italy: IEEE.
- Godfrey, Luke B. and Michael S. Gashler. 2018. “**Leveraging Product as an Activation Function in Deep Networks.**” In *Systems, Man and Cybernetics, 2018 IEEE International Conference on*. Miyazaki, Japan: IEEE.
- Sha, Zhenghui, Luke B. Godfrey, and Michael S. Gashler. 2018. “**Modeling Sequential Design Decisions Using Fine-Grained Empirical Data.**” In *Design Science Research 2018: Workshop on Data Driven Design and Learning*. Montreal, Canada.
- Godfrey, Luke B. and Michael S. Gashler. 2018. “**Neural decomposition of time-series data for effective generalization.**” *IEEE Transactions on Neural Networks and Learning Systems* 29, no. 7 (2018): 2973-2985. IEEE.
- Godfrey, Luke B. and Michael S. Gashler. 2018. “**A parameterized activation function for learning fuzzy logic operations in deep neural networks.**” In *Systems, Man, and Cybernetics (SMC), 2017 IEEE International Conference on*, 740-745. Banff, Canada: IEEE.
- Godfrey, Luke B. and Michael S. Gashler. 2017. “**Neural decomposition of time-series data.**” In *Systems, Man, and Cybernetics (SMC), 2017 IEEE International Conference on*, 2796-2801. Banff, Canada: IEEE.
- Godfrey, Luke B. and Michael S. Gashler. 2015. “**A continuum among logarithmic, linear, and exponential functions, and its potential to improve generalization in neural networks.**” In *Knowledge Discovery, Knowledge Engineering and Knowledge Management (IC3K), 2015 7th International Joint Conference on*, 481-486. Lisbon, Portugal: IEEE.

Personal Projects

- **Spurgeon Morning and Evening.** iPhone App (Swift) and Android App (Ionic/Cordova), 2016. Over 5,000 unique users every day as of January 2023. <https://spurgeonmae.com/>
- **RePete.** Game on Steam and iOS, 2015. Over 25,000 units sold. <https://repete.lukesterwebdesign.com/>
- **KestersHeatingAndAir.com.** Website for a local HVAC company that I designed and maintain. <https://www.kestersheatingandair.com/>
- **HopeCBC.org.** Website for a local church that I maintain. <https://www.hopecbc.org/>