

# Aaron M. Hosford

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[Website](#) | [GitHub](#) | [HTML Resume](#) | [PDF Resume](#) | [LinkedIn](#) | [Patents](#)

**Seeking:** Senior ML Researcher | Senior ML Engineer | Senior Data Scientist

**Expertise:** ML Model Design | Algorithm Design | NLP | NLU | NLG | Software Dev

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## Introduction

Highly creative systems thinker and radical innovator with a deep understanding of ML algorithms, theory, and applications. 15+ years of workplace experience – 30+ years counting personal projects. Track record of proven, patent-worthy designs. Seeking senior research or engineering role in Machine Learning, Data Science, or NLP, with a focus on novel algorithm development and/or application to new domains.

- Excellent problem-solving, analysis, & critical thinking.
  - Strong coding, design, & data skills.
  - Focused and clear-headed in the face of extreme problem complexity.
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## Accomplishments

- Co-founder of an Explainable AI startup.
- [Patent pending](#) for an anaphora resolution algorithm.
- Contributed to the initial public release and ongoing support of a [banking chatbot](#) used by millions of customers of a major bank.
- *National Merit Scholar* winner with full scholarship to the University of Texas at Dallas.
- Author and maintainer of the open-source [XCS](#) Python library, an object-oriented implementation of the eponymous XCS machine learning algorithm.
- Inventor of numerous proprietary machine learning algorithms, including work with deep learning, genetic programming, and reinforcement learning.
- Architect of a proprietary natural language and artificial intelligence system for open-ended reasoning and conversation. (work in progress)

## Relevant Experience

### Chief Technology Officer, Transparent AI – 2024 to current

**Project:** CTO and co-founder of Transparent AI, a startup in the Explainable AI space.

**Skills:** Leadership | Algorithm Design | Product Design | Requirements Analysis | ML | Programming

- Developed bespoke algorithms for explainable AI.
- Helped design the product from the ground up.
- Managed and worked closely with product development team to rapidly develop a working prototype.
- Assisted in pitching directly to investors.

### Senior Software and Machine Learning Engineer, Wiser Solutions, Inc., San Mateo, CA – 2022 to 2024

**Project:** Product matching pipeline

**Skills:** ML | Image Processing | Algorithm Design | Requirements Analysis | Leadership

- Developed a bespoke high-throughput image clustering algorithm for reliably identifying representative images for similar products across multiple online retailer sites.
- Designed & developed a data labeling pipeline for crowdsourcing training and evaluation samples appropriate to the problem domain.
- Comprehensive model analysis and evaluation, including the development of a novel framework for evaluation metrics appropriate to the novel problem space of N-ary representative image selection.
- Designed a responsive pipeline for continually applying the representative image selection algorithm to a live data stream.

### Machine Learning Engineer / Software Engineer II, Insight Global & Bank of America, Plano, TX – 2017 to 2022

**Project:** Conversational agent: Entity recognition, intent detection, and anaphora resolution.

**Skills:** NLP | ML | Data Science | Algorithm Design | Programming | Requirements Analysis | Leadership

- Patent pending for an anaphora resolution algorithm.
- Part of the team responsible for the ML and NLP subsystem of a [virtual financial assistant](#) – a [groundbreaking](#) chatbot serving [tens of millions of bank customers](#)
- Significant improvements to intent and entity recognition model performance.
- Extensive enhancements to the team's data handling processes and model metrics.
- Built natural language data labeling tools from scratch.
- Built bespoke heuristic/rule-based system for time entity extraction.
- Regularly collaborated with other experts to improve customer experience in accordance with stakeholder direction.

## **Lead Systems Architect, Ericsson, Plano, TX – 2014 to 2017**

**Projects:** Business process automation | Explanatory AI | Supply chain forecasting pipeline

**Skills:** Programming | ML | Algorithm Design | Requirements Analysis | Leadership

- Trained & led a remote team in an agile environment.
- Designed and built an automated supply chain forecasting pipeline.
- Worked closely with stakeholders to identify business requirements.
- Evaluated and applied a multitude of ML algorithms, including deep learning, decision trees, market basket analysis, and ARIMA.
- Designed and developed an open-sourced Python business automation framework.

## **Programmer/Software Analyst, West Asset Management (now Alorica), Sherman, TX – 2006-2014**

**Project:** Business process automation

**Skills:** Programming | Automation Design | Requirements Analysis | ETL | Leadership

- End-to-end design, implementation, and automation of \$50,000,000+ new and existing client-facing financial and account data interfaces.
- Conception, design, and coding of extensive contributions to the in-house business automation library.

## **Software Engineer (Intern), Ericsson, Richardson, TX – 1998-2001**

**Projects:** Network traffic analysis simulation | Telephony switch documentation management system

**Skills:** Programming | OPNET Simulation | Product Design

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## **Education**

### **Dual major, Computer Science and Mathematics, 1997 to 2001**

University of Texas at Dallas, Richardson, Texas

### **Autodidact and Machine Learning/AI Enthusiast, 1990 to current**

Over 30 years of focused self-learning, practice, and experimentation