

Alexander Wilson

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OBJECTIVE Drive positive impacts in the world through machine learning, leveraging expertise in explainable AI and a track record of high-impact projects.

EDUCATION **California Institute of Technology**, Pasadena, CA

B.S., Electrical Engineering **June 2014**

EXPERIENCE **Independent AI Research and Consulting** **January 2022 – Current**

- Machine Learning Researcher
 - Replicated research in model interpretability for reinforcement learning systems, inspired by DeepMind's chess AI. Enhanced model interpretability through advanced analysis and visualization, documented in a [published research post](#).
- Consultant, UCLA Department of Geology
 - Delivered actionable ML insights for geology projects, aligning model outcomes with client goals and driving performance improvements.

Kuna Systems **April 2019 – November 2021**

- Senior Machine Learning Engineer
 - Led AI/ML initiatives, increasing detection accuracy and bringing vision models to both embedded and cloud platforms.
 - Built and refined tools for data collection, model analysis, and error debugging, reducing missed detections by 90%.

BioIntelliSense (formerly Striiv) **November 2015 – April 2019**

- Machine Learning Engineer
 - Spearheaded development of heart diagnostic ML products, scaling from initial architecture to production integration.
 - Experience with novel feature extraction, complex signal filtering, and analytic signal techniques.
- Firmware Engineer
 - Developed firmware innovations to extend battery life by 40%, supported by hardware designs for efficient mass production.

Motivo Engineering **September 2014 – April 2015**

- Electrical Engineer
 - Led electronics design for a [multi-purpose electric tractor prototype](#), balancing performance with cost-efficiency.
 - Developed custom NFC hardware for consumer products, delivering both technical and budgetary success.

SpaceX **Summers 2012 – 2014**

- Electrical Engineer Intern - Avionics Remote Input/Output Team
 - Engineered circuits and PCBs for critical avionics sensor systems, achieving optimal weight and power efficiency.

Custom Circuit Entrepreneur **July 2011 – September 2012**

[Developed and marketed RGB laser driver circuits](#)

- Created, tested, and sold programmable laser drivers with 30+ effects, managing all aspects of design, testing, and sales.

SKILLS **Languages:** Python
Frameworks: TensorFlow, PyTorch, Scikit-learn
Expertise: Model interpretability, reinforcement learning, computer vision, embedded systems
Tools: Git, AWS, GCP, CI/CD