Websites
VocalVoters.com
Lettergram.net

Austin Walters
austin@agw.io
(815) 325 - 9398

Contributions
github.com/lettergram
InsiderOpinion.com

Programming Languages: Python, Ruby, Javascript, HTML, CSS, C, C++, Go
Frameworks/Databases: Rails, PostgreSQL, Keras, TensorFlow, PyTorch, Flask, Django, OpenCV, Qt, OpenCL, CUDA
Expertise: LLMs, CNNs, RNNs, Transformers, AutoML, Machine Learning, Web Development, Product Development

Work Experience

Staff Engineer - Read.AI
January 2022 - Feb 2023

- Designed & implemented the ML platform (Nvidia Triton Server and microservices in AWS)
- Collaborated across engineering and DS to optimize ML models, resulting in a 1000x speedup(s)
- Developed computer vision models to identify & monitor features in video conference platforms

Engineering Manager, Applied Research - Capital One
January 2020 - January 2022

- Managed team of 3-7 engineers/researchers & 8-10 interns/PhD fellows focused on ML
- Managed Capital One's sensitive data detection library github.com/capitalone/DataProfiler
- Technical lead on a ML & hyperparameter tuning platform, leveraged by hundreds of associates
- Product Owner of Synthetic Data Generation Library and Platform at Capital One
- Deep learning instructor, with over a thousand people attending our trainings a year

Software Engineer, Data Innovation - Capital One
July 2015 - January 2020

- Developed deep learning models for fraud detection
- Led a team of three engineers, developing a Ruby on Rails to identify and track insider threats
- Built recruiting software enabling team interaction in the recruiting process

Software Engineer - Caterpillar
September 2014 - May 2015

- Developed multi-camera system to identify and track users through a given space
- Constructed a video editor capable of automatic video editing from multiple cameras
- Developed in C++ & Qt, utilizing OpenCV for implementation of the computer vision algorithms

Education

University of Illinois Urbana-Champaign, IL
Bachelor of Science in Computer Science   *May 2015*

- **Senior Thesis - Lab: Tim Bretl - Mentor: Joe Degol:** Analysis/design of computer vision algorithms using OpenCV, OpenCL, and OpenMP (September 2013 - May 2015)
- **Recognitions:** ISUR, URO Student sponsored by the Semiconductor Research Corporation
- **Organization(s): ACM** - Association for Computing Machinery, UIUC Chapter
    - **ACM Treasurer:** Manage UIUC Chapters finances (March 2014 - April 2015)
    - **ACM SIGBio Chair:** Lecture on Biology, Neuroscience, Bioinformatic and Machine Learning topics, manage projects, and organize the group (September 2013 - May 2015)
- **Relevant Coursework:** Intro to Data Mining (CS412), Machine Learning and Signal Processing (CS598), Computer Vision (CS543), Virtual Reality (CS498)

Read More @ austingwalters.com

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Personal Projects/Business

- **Metacortex Inc.** - (August 2017 - Present)- Search for experts or resources at your business and in real-time track expertise, behavior, satisfaction and influence. Website: **insideropinion.com**
- **VocalVoters.com** - (2023 - Present) Write a letter to your congressmen using generative AI in seconds
- **Easy-a.net -** (2015 - 2020) - Provides predictive analytics for students registering for courses, similar to ratemyprofessor, but better. It is an extra source of income and has thousands of users.
- **Retrofitted Model M (Terminal) keyboards** - (2012 - 2015) - (small business) made them USB compatible

Publications & Patents

- **Patents (132 Issued, Nov 2017 - Present)**

  - **Highlighted Topics**: Large Language Models, Generative AI, ML, Mesh Networks, Blockchains, Computer Vision, Identification, Fraud detection, and more.

  - **Automatic scaling neural networks based on load** (USPTO: US10235625)
  - **Data model generation using generative adversarial networks** (USPTO: US10460235)
  - **Systems and methods for cluster-based voice verification** (USPTO: US15980214)

- **Sensitive Data Detection with High-Throughput Neural Network Models for Financial Institutions** (2020)
  - Model design for both high throughput and accurate sensitive data detection detection
  - Presented at AAAI Workshop 2020 - https://arxiv.org/abs/2012.09597

- **Towards Automated Machine Learning: Evaluation and Comparison of AutoML Approaches and Tools** (2019)
  - Evaluations of the available tools for automated machine learning (AutoML). Which automate the process of building machine learning models and applications
  - Presented at ICTAI 2019 - https://arxiv.org/abs/1908.05557

- **Why You Don't Necessarily Need Data for Data Science (Capital One, Medium)** (2018)
  - Demonstration of our Synthetic Data Platform, creating data that looks real from a schema and statistical standpoint, but has no real data.
  - medium.com/capital-one-tech/why-you-dont-necessarily-need-data-for-data-science-48d7bf503074

- **ChromaTags: An Accurate, Robust, and Fast Visual Fiducial System** (2014 - 2016)
  - An improvement over other fiducial mark systems, enabling a 2x - 10x speed increase for localization identification in robotics
  - austingwalters.com/chromatags

- **A Method for Removal of EEG Artifacts using Facial Motion Detection and ICA** (2014)
  - In real-time, correct EEG signal errors caused by movement
  - dropbox.com/s/2cd0numz0v09das/FinalPaper.pdf?dl=0

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