**Lawrence Gray, Ph.D.**

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**SUMMARY**

AI Leader and Ph.D with proven success delivering $13M+ in enterprise ML solutions while driving technological innovation across industry and academia. Serving as Adjunct Professor and Program Director at Georgetown University, bridging the gap between cutting-edge AI development and practical education. Track record of scaling teams (15+ engineers), transforming operations (4x productivity gains), and championing open-source initiatives. Foster a culture of inquisitiveness, trust, care, openness, and inventiveness within engineering teams, nurturing continuous learning and collaboration while driving innovative AI products. Recognized thought leader with keynote speaking engagements at major tech conferences, including StrangeLoop and PyData NYC.

**SKILLS**

* **AI & Engineering:** Statistical Analysis, Machine Learning, Natural Language Processing, Deep Learning, Data Analysis & Visualization, Business Intelligence
* **Leadership:** Technical Direction & Strategy, Engineering Risk Assessment, Cross-function Team Leadership (AI Strategy, Business Development, Marketing), Engineering Talent Management, Career Development & Mentorship, Technical Hiring
* **Software:** Python for Data Science & ML (Pandas, Numpy, Scikit-learn), Deep Learning Frameworks (PyTorch, Keras), NLP Libraries (NLTK, gensim), Web Development (Flask), SQL, Version Control (Git)

**PROFESSIONAL LEADERSHIP**

**Director of Machine Learning Engineering, KUNGFU.AI 2022 - 2025**

* Successfully delivered on every project that I worked on ( 20+) and valued at over $13 million across 20+ enterprise projects, including:
  + Developed GenAI system that reduced adverse brand-related tweet response time from hours to minutes
  + Implemented time series forecasting model achieving 20% accuracy improvement over 5-year projections, replacing months-long manual research process for multifamily housing demand
  + Engineered NLP solution achieving 95% accuracy in data harmonization, automating work previously requiring 30+ staff hours
  + Deployed XGBoost model that tripled click attribution accuracy by effectively identifying and filtering fraudulent clicks
* Led, managed, and mentored a high-performing team of 15 engineers to drive technical excellence and innovation across multiple AI Initiatives.
* Worked with cross-functional teams and advised non-technical executive stakeholders on unblocking critical challenges and streamlining operations.
* Strengthen client engagement to foster lasting partnerships with enterprise customers, including the Department of State, Deloitte, DataRobot, and Wendy’s, and translate business requirements into custom-tailored AI solutions at scale.
* Served as the technical advisor to Johns Hopkins University to validate a skin toxicity detection system after cancer radiation treatment while managing technical risk, optimizing resource allocation, and maintaining alignment with project goals.
* Promoted an inclusive engineering culture around shared project ownership by empowering tech leads to proactively gather team feedback, facilitate a harmonious ideation process, and build trust between team members.

**Head of Data Science, KPMG Spark 2020 - 2022**

* Defined the data vision and strategy for the entire finance-focused organization, including the development of AI and automation initiatives and a program that up-skills non-technical workers for data analyst positions, increasing data literacy by 10%.
* Reduced customer churn, implemented custom pricing dependent on the utilization of services, and optimized customer lead forecasting while working with executive stakeholders to align data science and corporate strategies.
* Developed the Automation/AI adoption roadmap & re-engineered jobs across the organization with a cross-functional team.
* Led the development of a next-generation ML/AI capability and operating model as part of the reinvention and reengineering of bookkeeping across the enterprise based on a new team-based structure to increase productivity 4-fold.
* Created machine learning analytic capabilities and algorithms to streamline bookkeeper decision-making and increase the accuracy of transaction categorization & implemented next-best-action recommendations to optimize accounting outcomes.
* Reduced customer churn by 10% by identifying and directly addressing the causes of churn within the first 100 days of customer acquisition using advanced customer metrics and XGBoost.

**Data Scientist, Maxar Technologies 2019 - 2020**

* Designed and developed methods, processes, and systems to consolidate and analyze unstructured and diverse big data sources and generate actionable insights and solutions for client services and product enhancement.
* Provided government clients with the ability to detect evasive and abnormal flight patterns of aircraft entering the United States and identify ships that may run aground in environmentally protected areas.
* Built Data Science pipelines for the creation of ML Classification models using Python.
* Collaborated with the product and service teams to identify questions and issues for data analysis and experiments.
* Created software programs, algorithms, and automated processes to cleanse, integrate, and evaluate large datasets.

**Postdoctoral Fellow - Computational Biology, National Center for Biotechnology Information 2013 - 2019**

* Developed 3D transformation algorithms to compare similarities in biological structures using C++.
* Created open-source scientific software that integrated a computer vision algorithm and an Iterative Closest point into the workflow for precise alignment of structures using C++ and Python.

**ACADEMIC & EDUCATIONAL LEADERSHIP**

**Program Director - Data Analytics, Georgetown University July 2022 - Present**

* Drive program innovation and growth, serving 300+ students across Data Analytics, Data Science, and GenAI certificates
* Source and recruit faculty while ensuring curriculum stays aligned with industry demands
* Spearhead development of new certificate programs based on emerging technology trends
* Successfully manage and oversee faculty team, maintaining program quality and educational standards

**Adjunct Professor, Georgetown University 2019 - Present**

* Design and teach advanced courses in Data Science, Data Analytics, Data-Driven decision-making, and GenAI
* Develop practical, industry-relevant curriculum incorporating real-world case studies and projects
* Consistently receive high student satisfaction ratings for making complex technical concepts accessible
* Pioneer new teaching methodologies for remote learning environments

**Lecturer, Maryland Institute College of Art 2020 - 2024**

* Taught the Master’s level course Python for Data Analytics and Visualization, which has enabled 100 students
* Created a curriculum enabling students with no prior programming experience to successfully complete capstone projects

**EDUCATION**

* Ph.D. in Cellular and Molecular Physiology, Johns Hopkins University, School of Medicine
* Bachelor of Science in Biology and Chemistry, California State University - Fullerton

**OPEN-SOURCE LEADERSHIP**

**Chair - Board of Directors, NumFocus 2022 - 2025**

* Guide Strategic direction of the organization supporting critical open-source science computing tools

**Core Contributor/Maintainer, Yellowbrick 2018 - Present**

* Contributed to the core features within the v1.0 release

**RECENT AND UPCOMING TALKS**

* [PyData New York City, 2022](https://nyc2022.pydata.org/cfp/talk/7EH8RM/) [[video](https://youtu.be/CQlQZRWHVcY)]
* [Strange Loop, St. Louis, MO September 2023](https://www.thestrangeloop.com/2023/building-strong-and-sustainable-open-source-projects-lessons-from-an-epic-road-trip.html) **[**[**video**](https://youtu.be/TE84-XFUT2w?si=MkcaC0kiQThD6h5n)**]**
* [**PyData New York City, 2024 - KeyNote Speaker**](https://nyc2024.pydata.org/cfp/talk/BEUE3C/) **[**[**video**](https://youtu.be/DKNT_AEmjEw?si=2EQ7fgPuXf-LJQtI)**]**
* [**OSCON March 2025 - KeyNote Speaker**](https://ospo.gwu.edu/open-source-conference-gw-oscon)