Felipe Felix Arias

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Background: ML and Software Engineer experienced in Generative AI, neural networks, LLM fine-tuning, machine translation, scalable ML infrastructure, and production systems at Uber and Marovi AI. Background in robotics and computer vision research, now focused on GenAI and large-scale machine learning solutions. Skilled in Python, Go, PyTorch, Kubernetes, Ray, and cloud platforms. Recognized for leading high-impact projects and fostering collaboration. Fluent in English and Spanish.

Education

University of Illinois at Urbana-Champaign **2023**
Master of Science in Computer Science **GPA: 4.0/4.0**
Advisor: Nancy M. Amato
Fellowships: NSF Graduate Research (2021), Ford (Honorable Mention) (2021), GEM (2020)

University of Illinois at Urbana-Champaign **2019**
Bachelor of Science in Computer Science (with Honors) **GPA: 3.8/4.0**

Experience

Uber Technologies - ML Training Team **San Francisco, CA**
Software Engineering – Manager: Peng Zhang **March 2024 – Present**

- Developed and deployed GenAI-powered solutions, including automated transcript labeling for distracted driving detection and internal assistants, improving incident resolution speed and team productivity.
- Built and productionized classification neural networks, analyzed large-scale data, supported ML development for Michelangelo (MA) users, and drove onboarding of fine-tuning use cases to Fireworks AI.
- Co-led critical infrastructure initiatives, including mTLS for Kubernetes ML workloads, regional cluster migration, and strengthening platform security through egress monitoring and certificate management.

Marovi AI **San Francisco, CA**
Founder **2024 – Present**

- Built and launched Marovi Wiki, an AWS-hosted multilingual AI platform offering agentic translation and AI-generated summaries for technical research papers, driving accessibility for global users.
- Achieved top 10% selection twice at Y Combinator, highlighting strong product vision, technical execution, and market potential among thousands of global applicants.
- Architecting a modular AI app platform with unified APIs, usage-based billing, multi-model routing, and a developer marketplace to enable plug-and-play AI tools and extensibility.

University of Illinois at Urbana-Champaign - Parasol Lab **Urbana, IL**
NSF Graduate Research Fellowship - Advisor: Nancy M. Amato **2019 - 2023**

- Designed and implemented deep learning models for spatial regression, enabling 5x faster multi-agent motion planning and improving collision avoidance.
- Developed and released open-source tools for simulating and analyzing indoor multi-agent navigation with real-world datasets.
- Advanced self-supervised learning frameworks to generate training data for spatial prediction tasks, supporting the development of robust navigation heuristics.

Uber Technologies - Search Team **San Francisco, CA**
ML Engineering Internship - Manager: Girish Baliga **June 2023 - August 2023**

- Led the development and optimization of XGBoost and deep neural networks for ETA prediction in driver-rider matching, with a focus on low-latency, compact model size, and high-quality candidate ranking
- Conducted ablation and feasibility studies on multiple models and devised a custom evaluation framework using accuracy metrics and Spearman rank correlation to assess both regression and ranking performance

Stanford University - Hazy Research Lab **Stanford, CA**
Research - Advisor: Christopher Ré **2018 - 2019**

- Collaborated with Alex Ratner (now CEO of Snorkel AI) on extending Snorkel, a system for rapidly creating, modeling, and managing training data, for multi-sentence weak supervision in NLP via LSTMs
- Adapted baseline heuristics for single-sentence extraction, and achieved a 12% F1 score improvement using novel multi-sentence strategies and multi-task learning

Publications

- **Motion Pattern Prediction in Dynamic Environments (Master's Thesis)**
  F. F. Arias, Advisor: N. M. Amato
  University of Illinois at Urbana-Champaign, 2023.
- **Avoidance Critical Probabilistic Roadmaps for Motion Planning in Dynamic Environments**
  F. F. Arias, B. Ichter, A. Faust, N. M. Amato
  Proc. IEEE Int. Conf. Robot. Automat., 2021, pp. 10264–10270