Michael Ilie

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TECHNICAL SKILLS

Programming Languages: Python, C/++, Swift, Julia, JavaScript, F#, Verilog
Libraries and Tools: PyTorch, Sklearn, Pandas, Numpy, ADRF, VRDC, HuggingFace Accelerate and PEFT, GMAT/STK, Spark, Databricks
Hardware/Embedded platforms: Alvium/Allied Vision, Lattice Diamond FPGAs, Intel Quark FPGAs, AMD Artix-7 FPGAs (experience with ddr3 and PCIe gen2), Thor Labs optical equipment, rp2040, AVR, SAMD21, STM32f4
Compliance/Regulatory: SBIR/STTR Grant Writing and Budgeting, HIPAA, FDA Cybersecurity, Experience with QMS, ISO, UL for electromagnetic interference

WORK EXPERIENCE

Chief AI Officer
Careplots Inc., Rockville, Maryland *September 2023 - Present*

- Spearheaded AI prototypes and large-scale RWD analysis projects for healthcare policy, outcomes research, and care disparities; contributed to RFPs for NSF, USDA, and SAMHSA.
- Developed scalable Python/SQL solutions for CMS VRDC, analyzing data of 150M beneficiaries; optimized ADRF data pipeline, enhancing government data democratization efforts.
- Designed AI solutions linking government (USDA) and private (Circana IRI) data using open-source LLMs; improved probabilistic matching with embedded text models and ML methods.

Senior R&D Engineer, Grant Writer
Lumo Imaging, Rockville, Maryland *January 2023 - March 2024*

- I led the effort in writing our phase II STTR grant from the NSF. I designed a plan to increase the efficacy of conventional dermatology deep-learning models using synthetic data and generative AI. I wrote most of the technical proposal, and half of the commercialization plan. In March of 2024, we won the grant and were awarded $1,000,000 USD.
- I was the lead engineer on Flacara Handheld device project. Created novel inverse kinematics solution to map lesions on the human body. Raised approx. $40,000 USD for this project through NIH sales and grants from University of Malryland Baltimore County. Hired and led team of 4.
- I conducted med-tech R&D, helped set up 3D printing infrastructure, hiring, pitch deck drafting, preliminary HIPAA compliance, simulation optimization, project manager for team of 10 people.

Embedded Engineer, Project Manager
Cision Vision, Palo Alto, California *May 2022 - October 2022*

- I worked on power systems and user interface development on the In Vision device, used for detecting lymph nodes in biopsy samples.
- I did R&D on novel laser raster scanning device for helping find tracking clips in breast cancer biopsies.
- I led FDA cybersecurity compliance efforts, also worked on preparing for QMS audit, and helped with EMI compliance. I also helped with project managing a team of 15 people.
- Our team won a 2023 Red Dot International Industrial Design Award for our work on the InVision device.

PUBLICATIONS

- The Prompt Report: A Systematic Survey of Prompting Techniques second author, equal contribution – I led a team of 20+ people from OpenAI, Stanford, Google, CMU, and UMD in conducting this survey.
- SIRVLAS: A CubeSat instrument suite for enhanced ionospheric charge density measurements – I designed and ran atmospheric simulation for remote sensing instrumentation validation for a cubesat.

EXTRACURRICULAR ACTIVITIES

- **Startup Shell** fall 2023 batch *October 2023 - Present*
- **PSSG research** under Dr. Abhinav Bhatele, LLMs for HPC *February 2024 - Present*

EDUCATION & CERTIFICATION

University of Maryland **College Park, MD, USA**
Computer Science, and Interdisciplinary Business Honors *August 2023 - May 2027*
Montgomery Blair STEM Magnet High School **Silver Spring, MD, USA**
Graduated a semester early to work at Lumo Imaging *August 2019 - January 2023*
Certified Forklift Operator
Class 1-7 Certified