Adel Sissoko

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EDUCATION

Missouri University of Science and Technology, B.S. in Computer Science, GPA: 3.5 / 4.0 *Jan 2025 - May 2028*
Relevant Coursework: Data Structures & Algorithms, Engineering Statistics, Computational Problem Solving
Member: Rocket Design Team, Combat Robotics, Chess Club, ACM (Association for Computing Machinery)

TECHNICAL SKILLS

Programming Languages: Python, C++, Bash, Rust
ML & AI: PyTorch, TensorFlow, Scikit-learn, Pandas, OpenCV, Vision Transformers, Keras, NumPy
Cloud & Deployment: AWS (EC2, Lambda), Flask, Streamlit, Docker (Basic)
Languages: English (Fluent), French (Native), Bambara (Native), Turkish (Basic)

WORK EXPERIENCE

Incoming Software Engineering Intern — *Nucor* | *May 2026 – Jul 2026* **Blytheville, AR**

TechX Labs, Inc. **Boston, MA**
Software Engineering Intern | Python, PyTorch, ResNet, GLCM, Scikit-learn, OpenCV *Jun 2025 - Aug 2025*
- Designed and deployed a deep learning pipeline for retinal anomaly detection, improving validation accuracy from 40% to 91.2% on the EyePACS dataset using a fine-tuned ResNet50 with integrated GLCM texture features. (RetinalScope)
- Reduced false negatives by 23% through class-weighted BCEWithLogitsLoss, advanced image augmentation, and selective fine-tuning of ResNet layers 2–4.
- Optimized model performance, reducing retinal scan analysis time from 10–30 minutes to under 6 seconds per image.
- Developed a clinician-facing Streamlit interface with Grad-CAM, enabling real-time analysis of 100+ test images

E.R.I.D Consulting **Bamako, Mali**
Web Developer Intern | HTML, CSS, JavaScript, SEO, Git | eridconsulting.com *Sept 2024 – Jan 2025*
- Refactored and optimized the legacy frontend codebase, reducing render-blocking scripts and improving First Contentful Paint by 32%.
- Implemented mobile-first responsive design and removed unused CSS rules, lowering bounce rate by 20% and improving cross browser experience.
- Generated 318 page views, 170 site sessions, and 137 unique visitors post-launch, reaching users across multiple countries.

Blueray Inc. **Toronto, CA**
Founder & Maintainer | Python, Rust, BLIP, LLaMA, Flask, GitHub *Sept 2023 – Present*
- Founded Blueray, an open-source initiative building developer tools and AI-based systems.
- Built and published LingoShell, a PyPI package that translates natural language to shell commands, enabling users to complete terminal tasks ~30% faster.
- Designed and maintained Mira, a modular AI system integrating vision (BLIP) and voice (LLaMA) for real-time understanding.

PROJECTS & RESEARCH

Research Assistant (Dermatology AI / Medical Imaging Data) | *Prof. R. Joe Stanley* *Feb 2026 – Present*
- Annotate and classify dermatology imaging datasets to support machine learning research in skin disease detection.
- Curate structured datasets intended for use by researchers and clinical experts in diagnostic analysis.
- Perform quality control on labeled data to ensure consistency, accuracy, and research usability.

Multimodal Interactive Recognition Agent (MIRA) | BLIP, OpenCV, GTTS, Transformers *Mar 2025*
- Built an AI assistant combining vision, speech recognition, and LLMs, reaching ~80% accuracy in real-time image captioning with sub-2s latency.
- Currently developing v2 with English & French voice support and a BLIP-based dataset generator capturing webcam frames every 2 seconds with automatic captions for downstream ML experiments.

LingoShell AI-Powered Shell Assistant | Python, NLP, Bash | https://pypi.org/project/lingoshelle/ *Jan 2024*
- Developed a Python CLI tool translating natural language into executable shell commands.
- Enabled users to complete terminal tasks ~30% faster than manual command entry through AI-driven command execution.

LEADERSHIP

Keystone Robotics **Istanbul, Turkey**
Team Leader | *Arduino, C/C++, Python* *Sep 2023 – Jun 2024*
- Secured 1st place regionally and 3rd place nationally at Robotex International competitions by leading a team in the design, build, and programming of autonomous race cars and sumo bots.
- Spearheaded all project development and mentored teammates in key engineering practices, utilizing Arduino, C/C++, embedded systems and PID control.