Akbarjon Kamoldinov

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EDUCATION

Bachelor of Science in Electrical Engineering — Expected May 2027
University of Missouri – Columbia — *Columbia, MO*

EXPERIENCE

AI Image Engineer — Jan 2026 – Present
Precision and Automated Agriculture Lab, University of Missouri — *Columbia, MO*

- Engineered OAK-D depth-camera pipelines for real-time stall occupancy detection in sow housing facilities.
- Developed compact multimodal pipelines ingesting RGB and depth data, running CNN/U-Net models, and outputting daily per-sow features for downstream dashboards.
- Calibrated stereo depth sensors and aligned point clouds for accurate spatial measurements using DepthAI v2.

Undergraduate Researcher – AI & LLM Systems — Jan 2025 – Present
Distributed and Intelligent Computing Lab, University of Missouri — *Columbia, MO*

- Designing reasoning-centered AI systems including LLM-based chatbots and ARC (Abstraction and Reasoning Corpus) puzzle solvers to study compositional generalization.
- Reviewing and implementing ARC-AGI-2 benchmark methods; evaluating solver architectures for machine reasoning with foundation models.

Electrical Engineer Intern — Jun 2024 – Aug 2024
NazarX – Aerospace R&D Center — *Tashkent, UZ*

- Prototyped 10+ nanosatellite and drone components in SolidWorks, reducing estimated production cost by ∼15%.
- Performed tolerance and stress simulations to meet ISO 2768 and FAA Part 23 design criteria.
- Led CubeSat training for 30+ students from the UAE, strengthening international collaboration.

PROJECTS

PromptVault – Social Platform for AI Prompt Art — 2025
Personal Project

- Built a full-stack social platform for sharing and discovering AI prompts across ChatGPT, Claude, Gemini, and Grok using Next.js 15, TypeScript, and Supabase (Postgres + Auth).
- Implemented trending/latest feed, optimistic-UI likes and bookmarks, user profiles, and search with category/tag filtering; deployed on Netlify with Google OAuth.

FridgeIt – Food Waste Reduction App — Nov 2023 & Nov 2024
University of Missouri – Hackathon Project — *Columbia, MO*

- Built a full-stack app (Python/Flask, recipe API, CRUD) to track fridge inventory and suggest recipes; placed 2nd at TigerHacks twice.
- Implemented user authentication and search filters collaborating in a 3-person team under 36-hour deadlines.

Biomedical Robotic Hand — Dec 2023 – Feb 2024
Mechanical & Aerospace Engineering Dept., University of Missouri — *Columbia, MO*

- Implemented Python signal-processing pipelines (FFT, filtering) for a robotic blood-pressure sensor; analyzed data from 20+ volunteer trials, improving sensor accuracy by ∼20%.

LEADERSHIP

Secretary – *Claude Builders Club – Mizzou Chapter*	Feb 2026 – Present
Vice President – *Uzbek Student Organization (UzSO)*	Aug 2025 – Present
Tech Committee Leader – *Muslim Student Organization*	2024 – Present

SKILLS & TECHNICAL COURSEWORK

Programming: Python, C/C++, JavaScript/TypeScript, R, MATLAB, HTML/CSS

ML & Computer Vision: PyTorch, OpenCV, DepthAI, scikit-learn, NumPy, Pandas

Web & Backend: Next.js, React, Flask, Supabase, Tailwind CSS, shadcn/ui

EDA & Hardware: NI Multisim, PSpice, SolidWorks, AutoCAD; oscilloscopes, soldering, Git/GitHub, LaTeX, Linux

Coursework: Microprocessor Engineering, Circuit Theory I & II, Circuits & Signals I & II, Algorithm Design, Logic Systems