KALOYAN DIMITROV

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EDUCATION

Yale University, New Haven, CT   Expected Graduation May 2029
B.S. Electrical Engineering (ABET-accredited)
American College of Sofia, Sofia, Bulgaria   Graduation May 2025
Awards: Floyd Black Award, Science Department Award

WORK EXPERIENCE

Akhnaton LTD, *Automation Specialist*, Sofia, Bulgaria   Jul 2024 - Jun 2025
- Integrated a new robot into the product lineup
- Organized demonstrations and training sessions for clients
- Trained computer vision for precision part recognition and picking
- Designed a custom gripper flange

LEADERSHIP EXPERIENCEA

ACS Phoenix FIRST Robotics Competition Team, *Founder & Team Captain*, Sofia, Bulgaria   Nov 2022 – Mar 2025
- Founded and led the first Bulgarian FIRST Robotics team
- Led engineering, programming, fundraising, recruiting, and marketing
- Managed $10,000 yearly budget
- Grew team to 30 members and reached playoffs for the first time in 2025

American College of Sofia Student Council Makerspace Committee, *Chairman*, Sofia, Bulgaria   Oct 2023 – May 2025
- Facilitated the renovation and maintenance of the school's makerspace
- Organized hands-on training sessions for prospective members and integrated them in the organization of fundraisers

EnduroSat Space Challenges Bootcamp, *Team Leader*, Gela, Bulgaria   Aug – Sep 2022
- Led a 5-member team for 5 weeks to build a ground station, communicating with real LEO satellite
- Developed satellite tracking software and electronics for antenna guidance from scratch
- Co-authored project report detailing business and technical aspects of the project

PROJECTS

PCHELICHKA, Sofia, Bulgaria   March 2024 - PRESENT
- Developed fully autonomous drone for pollination of indoor farm and secured funding from a start-up incubator
- Came up with novel bio-inspired contactless pollination technique
- Implemented full controls and sensor system, plant disease detection AI algorithm, and dashboard

Paintball, Sofia, Bulgaria   1Sept 2024 – Aug 2025
- Contracted by a local paintball arena chain to develop 5 interconnected checkpoints for teambuilding games
- Designed electronics, radio communication, firmware, and a web panel for game management

Swarm Guidance and Communication System, Sofia, Bulgaria   Nov 2021 – Oct 2024
- First author of Q2 journal publication
- Proposed and evaluated an algorithm for collaboration within robotic swarms with no centralized communication
- Conducted research in biology and engineering; built simulation; collected, analyzed, and visualized performance data

SHARO, Sofia, Bulgaria   Oct 2022 – Apr 2023
- Developed full software stack for 3D-printed quadruped from scratch (movement, teleoperation UI, and AI vision)
- Introduced novel method to describe limb trajectories with Bézier curves

Silica Gel and Xerogel Preparation, Sofia, Bulgaria   Sep 2023 –Jun 2024
- Studied the effects of Cl^- ions as a catalyst in silica gel and xerogel formation
- Designed and conducted experiment in wet lab; performed measurements, analyzed data and authored paper

SKILLS

- *Computer Skills:* Data science, AI(Python); Web development; Embedded(C/C++); CAD; Electronics; Adobe; Office package
- *Language Skills:* English (full working proficiency), German (elementary proficiency), Bulgarian (native)