Maksym Bondarenko

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EDUCATION

Columbia University, *BS in Computer Engineering, GPA 3.5/4.0*   **Expected graduation: May 2026**
Relevant coursework: Data Structures, Advanced Programming in C, Operating Systems, Fundamentals of Computer Systems+Lab, Circuit Analysis+Lab, Electronics+Lab, Language Generation and Summarization (graduate course), Honors Mathematics
Princeton University (taken as a high school senior): Machine Learning, Natural Language Processing.
Lawrenceville School: Received a full ride to attend, graduated cum laude.
Honors: Competed in International Linguistics Olympiad in 2017, full-ride John Jay scholar at Columbia.

EXPERIENCE

Robotics Startup, Computer Vision Engineer   March 2024 – present
- Working on a high-performance full-stack computer vision pipeline encompassing hardware selection (Raspberry Pis, embedded systems), real-time software algorithms, and machine learning models for object recognition.

Pravopysnyk, Co-Founder and Lead Developer   Aug 2020 – present
- Developed first ever AI-powered grammar correction system for Ukrainian that set state-of-the-art on Ukrainian GEC benchmark. Research received Best Paper award at EACL workshop.
- Developed a real-time online text editor and secure API for the beta version of the service using HTML+CSS, JS, Flask, MySQL, Docker and AWS.
- Led an international fully-remote team of 11 developers and linguists across 4 time zones and 3 countries.

Columbia Computer Vision Lab, Undergraduate Researcher   September 2023 – April 2024
- Engineered a scalable data generation pipeline for EraseDraw, improving object insertion in natural images, achieving groundbreaking results in computational image generation with a text-conditioned diffusion model
- Work published as an extended abstract at AI4CC workshop at CVPR and as a paper in ECCV.

Columbia NLP Lab, Undergraduate Researcher   June 2023 – Dec 2023
- Researched, selected and implemented evaluation suite for evaluating AI book-length summarization, including complex coherence and factual consistency metrics, which allowed to reduce per-text cost from $100 to $0.01.

Columbia Math Modelling, Researcher and Competitor   Feb 2023 – Aug 2023
- Selected to participate in Summer Research in Mathematical Modeling (CSUREMM) – a ten-week, NSF-funded program for collaborative research in mathematical modeling.
- 2023 Mathematical Contest in Modeling Outstanding Paper and MAA Award Winner.

PROJECTS

Flutter - Won 10,000$ prize at hackathon organized by Sebastian Thrun   Jan 2024
- Developed a method for autonomous drone operation using natural language input and LLM planning, which can allow drones to perform complex tasks with minimal supervision.

Giraffe.study - category winner at HackHarvard out of 150 teams   Oct 2023
- Pioneered a method to autonomously produce over 2 minutes long videos revolutionizing custom educational content creation using manim, Python, Bash scripting, advanced prompt engineering, and Open AI API.

FPGA MP3 Player   April-May 2024
- Programmed a XILINX FPGA from scratch to play custom uploaded songs using VHDL.

SKILLS

Programming Languages	Python, SQL, Java, C
AI/ML	Pytorch, AllenNLP, NumPy, Pandas, NLP, Computer Vision, Diffusion models, Transformers, Reinforcement Learning
Software Development	HTML+CSS, Docker, MySQL, Flask, AWS, Unix, bash, kernel programming, GIT
Hardware	SPICE, Circuit Analysis, VHDL, FPGA programming, Analog Design, optical sensors
Other	LaTeX, Wolfram Mathematica
Languages	Ukrainian (native), Russian (fluent), English (fluent)