Ivan Cabrilo

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EDUCATION

Vrije Universiteit Amsterdam — Amsterdam, Netherlands
Exchange year — *August 2024 – June 2025*

University of Rochester — Rochester, New York
Bachelor of Arts in Computer Science, Machine Learning track & minor in Business — *August 2022 – May 2026*

- GPA: 3.66/4.00, Dean's List
- Courses: Intelligent Systems, Compiler Construction, Computation and Formal Systems in C, Data Structures & Algorithms, Discrete Math, Business Analytics in Python, Statistics & Probability, Automata & Complexity, Computer Organization, Economics, Financial Management
- Honors: Whipple Science Scholarship ($12,000/year), Rochester National Grant ($50,000/year), Shelby Davis UWC Award ($30,000/year)
- Clubs: Computer Science Undergraduate Club, Google Developer Club, Bouldering club

TECHNICAL SKILLS

- Programming: Python, Java, TypeScript, JavaScript, SQL, C/C++
- Libraries: React, Hugging Face, NumPy, Matplotlib, Pandas, TensorFlow
- Certifications: ML by Stanford University, CodePath Web Dev, CITI
- Frameworks: Next.js, Docker, PyTorch, NodeJS
- Languages: Serbian, English, Spanish, German
- Cloud: AWS, Google Colab; version control, Git

EXPERIENCE

Event and Classroom Management — Rochester, New York
Desk-Technician — *March 2023 – May 2024*

- Provided prompt and comprehensive technical support across MacOS, Linux, and Windows operating systems, ensuring smooth operation
- Diagnosed and repaired hardware issues on Apple, Dell, Crestron, Owl and Lenovo devices, as well as Xerox and HP printers
- Managed server connections and network troubleshooting, demonstrating a solid understanding of TCP/IP, LAN technologies

Cikom — Podgorica, Montenegro
Data Science Intern — *June 2023 – August 2023*

- Designed a relational database for inventory management, improving update time by 20% through product categorization and MapReduce
- Enhanced MySQL server performance on AWS EC2 by implementing horizontal scaling and sharding, achieving a 17% increase in query speed
- Reduced operational costs by 5% through optimized distributed storage and efficient resource allocation across cloud infrastructure
- Collaborated with cross-functional teams to enhance database scalability and reliability for handling large datasets

Funko Dojo — Glen Rock, New Jersey
Software Engineer Intern — *November 2022 – January 2023*

- Engineered a robust web scraping framework with Python Requests, utilized BeautifulSoup for parsing the HTML data from retailer websites
- Leveraged Amazon Web Services S3 cloud technologies via the boto3 library to securely store & retrieve scraped data for the Funko Dojo SaaS
- Optimized real-time product monitoring with Slack API, resulting in 25% faster real-time response

ENTREPRENEURSHIP

Sorriso.care
Co-Founder & CTO — *April 2024 – Present*

- Secured $30,000 in funding from the Innovation Fund of Montenegro to launch a tech startup enhancing medical tourism in Montenegro
- Working on enhancement of SEO and organic traffic growth through Ahrefs, as well as paid traffic with targeting Google Ads
- Overseeing web development of Next.js full stack app with mobile development, using Tailwind for frontend UI/UX design
- Negotiated and secured a 15% revenue-sharing agreement with a private clinic; current total revenue generated is $48,000

RESEARCH

Rochester Human Computer Interaction Lab — Rochester, New York
Undergraduate Machine Learning Research Assistant
PARK Project — *September 2023 – Present*

- Built user guide for a PARK web app using TypeScript and Google's MediaPipe for Face Landmark Detection APIs
- Applied data mining to extract features for Parkinson's disease using VisionTransformer and Wav2Vec2ForSequenceClassification
- Fine-tuned WaveLM and V-JEPA deep learning models on 300 audio & 500 video patient recordings
- Employed multimodal fusion layer by aligning & integrating audio-visual embeddings, achieving 75% accuracy in classifying Parkinson's disease patients; showcasing problem-solving, excellent interpersonal and communication skills with my graduate mentor
- Read over 20 scientific papers & implemented transformer-based architecture with self-attention from *"Attention Is All You Need"* paper

Project Sophie Artificial Intelligence — *January 2023 – August 2023*

- Joined a team of PhD students in agile setting to develop an interactive AI-driven virtual 'patient' bot for sensitive end-of-life conversations
- Developed the bot's neural networks from scratch in PyTorch to recognize handwritten digits using LeakyReLU and normalized tanh(x)

PROJECTS

Bouldering Pose Detection

- Developing algorithms to quantify limb/joint overreliance for data-driven climbing insights and improving my climbing skills
- Implemented a computer vision pipeline using MediaPipe for 3D Pose Landmark Detection that extracts data from my bouldering videos
- Filtered low-visibility points (<65%), averaged hand landmarks, and skipped every second frame to boost processing speed by 100%
- Working on containerization of the end-to-end application with Docker and AWS, ensuring scalable and efficient deployment
- Stored extracted data points in JSON for seamless conversion to Pandas DataFrames and advanced visualization with matplotlib

HackHarvard — Boston, Massachusetts

- Developed CommonPrompt, an open-source web app addressing ethical challenges in GPT-3.5
- The app collects user data for fine-tuning the model to prevent harmful jailbreak exploits

TEACHING EXPERIENCE

CSC 172 – Data Structures & Algorithms

AWARDS

Schwarz Discover Research Grant – University of Rochester