

# ALEKSEY VALOUEV

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## EDUCATION

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### University of California, Berkeley

August 2025 - May 2029

B.S. in Electrical Engineering & Computer Science; GPA: 4.0/4.0

Member, Machine Learning @ Berkeley

Relevant Coursework: Data Structures & Algorithms, Computer Architecture, Signal Processing

## EXPERIENCE

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### Berkeley AI Research Lab (BAIR)

October 2025 - Present

Researcher

Berkeley, CA

- Developing foundation computer vision models for fine-grained object detection in satellite imagery. Using multi-view vision transformers to jointly infer scene geometry and perform object detection.
- Supervised by Dr. Ritwik Gupta in the Darrell Computer Vision Group.

### Boston University Computational Imaging Systems Lab

July 2024 - August 2024

Research Intern

Boston, MA

- Combined 3-D scene representation (NeRF) with Fourier optics to pioneer a versatile and adaptive approach to extended depth microscopy. Developed a lightweight and versatile tool for miniaturized imaging of live rodent brains.
- First-author publication in IEEE (<https://ieeexplore.ieee.org/document/10959478>).

### University of Southern California, Marshall School of Business

May 2022 - June 2024

Research Assistant

Los Angeles, CA

- Aggregated, preprocessed, and analyzed short seller tweets and corporate disclosures to predict short squeeze attacks.
- Performed textual analysis of published papers using NLP techniques. Presented results at the USC CETAFE Conference.
- Acknowledged in a journal publication (<https://dx.doi.org/10.2139/ssrn.3849581>).

## PROJECTS AND LEADERSHIP

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### Machine Learning for Wildfire Prediction

September 2021 - December 2022

- Acquired and processed satellite and sensor data using Geographic Information System (GIS) tools, Pandas, and Numpy.
- Used logistic regression and random forest models with time series data to predict monthly wildfire risk at 5 kilometer resolution.

### AI-Powered Network of Sensors for Real-Time Wildfire Detection

January 2023 - June 2025

- Created a novel Intelligent Wireless Sensing Network (IWSN) for real-time wildfire detection using CV on IoT devices.
- Provisional patent for the IWSN registered with the US Patent Office. Worked on deployment in the Santa Cruz Mountains.

## SKILLS AND VOLUNTEERING

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### Technical

Python, Java, PyTorch, Matplotlib, Yahoo Finance API, Stanford Named Entity Recognizer, NLP

### Volunteering

Supervisor at Palo Alto High School robotics summer camp. Outreach with National Geographic.

### Linkedin

<https://www.linkedin.com/in/aleksey-valouev/>