Katarina N. Pejcinovic

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EDUCATION

Oregon Health & Science University (OHSU), Portland
- PhD Biomedical Informatics: 2024- *in progress*

University of California, Los Angeles
- M.S. Bioengineering: 2023-2024, 3.97/4.00 GPA
- B.S. Bioengineering: 2020–2023, 3.92/4.00 GPA

AWARDS AND HONORS

- National Library of Medicine T15 grant recipient, 2024-2028
- Bioengineering Leadership Fellowship Award, UCLA, March 2024
- B.S. Magna Cum Laude, UCLA, June 2023
- Best Poster at PATHS-UP HHMI Undergraduate Research Conference, UCLA, June 2022
- 1st place project in healthcare track, QWER Hacks Hackathon, January 2023
- 1st place project and best presentation, 2021 BMES UCLA Biohack Hackathon, April 2021

RESEARCH EXPERIENCE

Research Rotations in Causal ML, Uncertainty Quantification, and NLP—OHSU
07/2024 – 07/2025
- Applied conformal prediction methods and discovered current triaging methods have high prediction uncertainty, highlighting a need for triage policy reassessment. *Forthcoming poster at AMIA Symposium*
- Co-developed a 3-hour workshop on the framework, theory, and application of fairness metrics and causal fairness for AI evaluation. *Forthcoming workshop at AMIA symposium*
- Applied conformal prediction and population-level uncertainty measures to four local and proprietary LLM models, helping quantify LLM uncertainty for healthcare applications. *Project in progress*

Bioinformatics Internship—Institute Ruder Boskovic in Zagreb, Croatia
07/2023 – 09/2023
- Identified genes associated with metabolic diseases and diabetes by predicting long-range regulation by non-coding regions that are not detected in conventional genetic testing
- Analysis of over 700 patient clinical sequencing samples that had previously never been studied
- Collaborated with clinicians and researchers at the School of Medicine, University of Zagreb, who were interested in the analysis of the samples and incorporating the pipeline I built into their workflow

Undergraduate Research Program—Howard Hughes Medical Institute (HHMI) at UCLA
09/2021 – 06/2022
- Development of vertical flow assay for point-of-care Lyme disease detection, including screening of Lyme peptides and optimization of carrier proteins
- Led weekly literature reviews on topics in Lyme disease diagnostics
- Presented assay design and optimization results at the PATHS-UP HHMI undergraduate conference

PUBLICATIONS

Ghosh R, Joung HA, Goncharov A, Palanisamy B, Ngo K, **Pejcinovic K**, Krockenberger N, Horn EJ, Garner OB, Ghazal E, O'Kula A, Arnaboldi PM, Dattwyler RJ, Ozcan A, Di Carlo D. Rapid single-tier serodiagnosis of Lyme disease. Nat Commun. 2024 Aug 20;15(1):7124. doi: 10.1038/s41467-024-51067-5. PMID: 39164226; PMCID: PMC11336255.

POSTERS AND PRESENTATIONS

• *SOFA Produces Uncertain Mortality Predictions: Reconsidering the Use of SOFA in Triage*. American Medical Informatics Association Symposium (forthcoming, November 2025)
• *Ensuring Algorithmic Fairness in Healthcare: Challenges, Implications, and Strategies.* American Medical Informatics Association Symposium (forthcoming, November 2025)
• *A Case Study in Patient Level Uncertainty Quantification: Implications for Crisis Standards of Care.* OHSU School of Medicine Research Forum (May 2025)
• *Development and Analysis of Machine Learning Pipelines for Lyme Disease Diagnosis*. PATHS-UP HHMI Undergraduate Research Conference (June 2023)
• *Brain-Computer Interface with Motor Imagery and Feedback*. UCLA Undergraduate Research Week Conference (May 2023)
• *A Multiplexed Assay for Lyme Disease Diagnosis.* PATHS-UP HHMI Undergraduate Research Conference (June 2022)

TECHNICAL EXPERIENCE

Deep Learning Models for Epilepsy Detection—Speier Lab at UCLA
09/2023 – 06/2024
• Developed deep learning models for the classification of EEG signals for epilepsy diagnostics
• Acquired project management skills by resolving group conflicts, assigning tasks, directing project goals, and managing code base
• Refined skills in code planning, documentation, and version control

Brain-Computer Interface Designer—Speier Lab at UCLA
09/2022 – 03/2023
• Online classification of 5 motor imagery brain signals with EEG headset to create a method of communication for completely paralyzed patients
• Coded game in Python that allows user to move objects on a screen by thinking a certain motor imagery
• Presented oral presentation with team at UCLA-wide undergraduate research conference

Undergraduate Researcher in Machine Learning Diagnostics—Di Carlo Lab at UCLA
09/2022 – 06/2023
• Created a modular ML pipeline to analyze rapid, multiplexed Lyme Disease assay results and then output a positive or negative diagnosis
• Analyzed and compared several AutoML-generated ML pipelines, achieving a ROC AUC of >90%
• Implemented Feature Selection that selects optimal Lyme-associated peptides for the assay which could reduce costs in the future

Entrepreneurship Intern—DOE Office of Technology Transitions at Berkeley National Lab
06/2022 – 08/2022
• Analyzed commercialization opportunities for novel solderless printed circuit board interconnect
• Completed 17 customer discovery interviews with professionals and executives from several industries
• Gave presentation to Berkeley employees, inventor, and licensing director that highlighted customer discovery findings and my recommendations for future licensing options

LEADERSHIP AND OUTREACH

Intern Mentor—OHSU Biomedical Informatics and Data Science Summer Internship Program
07/2024- ongoing
• Co-mentored two undergraduate students over 10 weeks with weekly check-ins that included code review, literature review, professional development, and refining scientific presentations
• Provided constructive feedback on code efficiency, readability, and documentation

• Participated in a speed networking event with all 10 interns, providing feedback and advice on career and academic goals

High School Science Fair Head Judge—International Science and Engineering Fair
04/2025-05/2025
• Led a team of 10 judges in evaluating 40+ student projects at regional fair, developing a shared understanding of the rubric, and ensuring equitable time and attention across all entries
• Judge at the state level in chemistry and biochemistry categories
• Provided feedback to students regarding study design, methodology, and statistical analysis

Graduate Liaison—Biomedical Engineering Society (BMES) at UCLA
09/2023 – 06/2024
• Actively collaborated with industry representatives, faculty, and undergraduate branch to plan events as the graduate student representative. Planned academic and industry coffee chats and company tours
• Prepared and presented workshops and panels on graduate school to encourage the 200 undergraduate students in the BMES club to consider graduate education
• Helped execute a department-wide bioengineering conference with 161 attendees and 145 posters/presentations

TEACHING EXPERIENCE

Engineering Ethics and Writing Teaching Assistant—Department of Engineering at UCLA
09/2023 – 06/2024
• Lead weekly 3-hour discussions teaching 20+ students in engineering ethics and writing
• Emphasize collaboration with team-based essays, peer review, and team presentations
• Develop own material for each discussion, emphasizing ethical frameworks, grammar, and simplicity
• Grade over 40 student essays with themes in engineering ethics

Learning Assistant—Department of Mathematics at UCLA
09/2021 – 12/2021
• Tutored over 20 students weekly in multivariable calculus during discussion section as an undergraduate
• Attended weekly meetings with the professor to prepare practice problems and review material
• Co-hosted office hours with professor to help answer student questions

SKILLS

• Proficient in Python, R, Bash, Stata, SPSS, MATLAB, C++
• Machine Learning, Deep Learning
• Natural Language Processing
• Causal Inference
• Uncertainty Quantification
• Clinical genome sequencing analysis
• Market Analysis/Research and Tech Transfer
• Git, Figma
• Languages: English, Mandarin, Croatian