

Anna Kay

MSTP STUDENT · COMPUTER SCIENCE AND ENGINEERING

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My research focuses on computer vision and its applications to healthcare with current projects in hierarchical classification and forecasting. I previously worked on hip landmark detection and analyzed disparities in pediatric emergencies. As an undergraduate, I studied renal aquaporin trafficking from a cell biology lens.

Education

University of Michigan

2021 - present

MEDICAL SCIENTIST TRAINING PROGRAM

GPA 4.0/4.0

- PhD department: Computer Science and Engineering
- Advisor: Prof. Stella Yu

Massachusetts Institute of Technology

2016 - 2021

PHYSICS (8), CHEMISTRY AND BIOLOGY (5-7)

GPA 5.0/5.0

- Minors: economics, computer science

Publications

* *equal contribution*

UNDER REVIEW

K. Miller, K. Reddy, **A. Kay**, M. Nguyen, R. Issa, L. Juratli, M. Johnson Griggs, M. Yacim, A. Elam, A. Sugar, S. Mian, A. Kaplan. Michigan Ophthalmology Pipeline: Five Years of Aiming to Increase Diversity in Ophthalmology. *Journal of Academic Ophthalmology*.

UNDERGRADUATE

M. L. Antony, D. Chang, K. Noble-Orcutt, **A. Kay**, J. L. Jensen, H. Mohei, C. Myers, K. Sachs, Z. Sachs. CD69 marks a sub-population of acute myeloid leukemia with enhanced colony forming capacity and a unique signaling activation state, *Leukemia & Lymphoma* (2023), <https://doi.org/10.1080/10428194.2023.2207698>

P. Cheung*, M. Boukenna*, R. Babicz, S. Mitra, **A. Kay**, T. Paunescu, N. Baylor, L. Chen-Chung, A. Nair, R. Bouley, D. Brown. Intracellular sites of AQP2 S256 phosphorylation identified using inhibitors of the AQP2 recycling itinerary, *American Journal of Physiology-Renal Physiology* (2023), <https://doi.org/10.1152/ajprenal.00123.2022>

C. Chiou, M. Wang; E. Taniguchi, R. Nascimento e Silva, **A. Khoroshilov**, D. Li, H. Wang, S. Greenstein, S. Brauner, A. Turalba, L. Pasquale, L. Shen. Characterization of Prelaminar Wedge-Shaped Defects in Primary Open Angle Glaucoma, *Current Eye Research* (2020), <https://doi.org/10.1080/02713683.2020.1836229>

Presentations

* *equal contribution* | *speakers underlined*

SELECT EXTERNAL

A. Kay, J. Krogue, M. Firtha, P. Donohue, M. Villalba, S.X. Yu, V.A. Kulkarni. HipScreen AI: Artificial Intelligence Algorithm Accurately Measures Migration Percentage on Hip Surveillance Radiographs Acquired from a Mobile Device. American Academy for Cerebral Palsy and Developmental Medicine Annual Meeting. (upcoming)

V.A. Kulkarni, C. Yeh, J. Krogue, **A. Kay**, M. Firtha, P. Donohue, M. Villalba, S. Jeon, S.X. Yu. Deep-Learning Quantification of Hip Displacement in Children with Cerebral Palsy: Validation on International Radiographic Set from 24 Centers. American Academy for Cerebral Palsy and Developmental Medicine Annual Meeting. (Podium, 2023)

A. Kay*, M. Nguyen*. Pediatric emergency room visits for eye-related injuries in school and daycare: trends from 2003-2022. Women in Ophthalmology. (Poster, 2023)

M. Nguyen*, **A. Kay***, K. Miller, Y. Paulus. The impact of race on pediatric eye-related injuries in school and daycare. American Academy of Ophthalmology. (Poster theater, 2023)

SELECT INTERNAL

C. Yeh, **A. Kay**, S. Jeon, P. Donahue, M. Villalba, J. Krogue, S.X. Yu, V.A. Kulkarni. Automated measurement of migration percentage in hip surveillance radiographs. e-Health and Artificial Intelligence symposium. (Poster, 2023)

SELECT UNDERGRADUATE

A. Khoroshilov, C. Paunescu, S. Cheung, A. Nair, R. Bouley, D. Brown. Phosphorylated forms of AQP2 are re-distributed onto intracellular vesicles after colchicine mediated microtubule disruption in renal epithelial cells. KUH Summer Undergraduate Research Conference. (Poster, 2019)

A. Khoroshilov, M.L. Antony, K. Noble-Orcutt, K. Sachs, Z. Sachs. Effect of Mebendazole Dependent Myb Inhibition in NRAS Mutant AML. Molecular Biology of the Cell, 29 (26), 3063 (abstract P1316). <https://doi.org/10.1091/mbc.E18-10-0647>. (Student poster competition, 2018)

Outreach & Professional Development

MENTORSHIP

- 2023-curr. **Explore CS Research Team**, research mentor to undergraduate senior
Project: contrastive learning for ancient coin classification
- 2023-curr. **UM-INSPIRE**, mentor to undergraduate sophomore
- 2021-2022 **Doctors of Tomorrow Foundations**, capstone leader for grades 9-10

SERVICE

- 2023-curr. **MSTP Justice Diversity Accessibility Equity task force**, member
- 2023-2024 **Diversity in Medicine Conference**, organizer
- 2023 **UM CSE internal reviewer**, for Computer Vision and Pattern Recognition
- 2022 **Medical Educational Consulting Group Student Impact Symposium**, organizer
- 2021-2022 **Admissions SLounge**, coordinator
- 2021-2022 **Galens**, financial allocations committee, Tag Days volunteer

LEADERSHIP

- 2024-curr. **Ophthalmology Student Interest Group**, director of research and education
- 2021-curr. **Medical French**, vice-president
- 2022-curr. **Michigan Journal of Medicine**, editor
- 2023 **Clinical Assessment Task Force**, student representative
- 2022-2023 **Michigan Ophthalmology Pipeline**, co-president
- 2021-2022 **American Medical Women's Association**, president
- 2021-2022 **Wolverine Street Medicine**, education coordinator
- 2021-2022 **Medical Education Consulting Group**, team leader

TEACHING (SELECT UNDERGRADUATE)

- Fall 2018 **8.02 Seminar XL**, instructor
- 2018-2019 **Physics TSR²**, teaching assistant
- Fall 2019 **8.012**, office hours lead

Languages

Russian (native)
French (near native/fluent)
Spanish (DELE C1)