YING (SABRINA) YU

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EDUCATION

University of Washington   Sep 2018 - Dec 2022
B.S. in Psychology, Minor in Neural Engineering and Applied Math   GPA: 3.78
Relevant Coursework: Statistics, Machine Learning, Applied Math Learning, Memory, Stress, Cognitive Psychology

EMPLOYMENT HISTORY

University of Washington   2023/12 - Present
Research Scientist I   Seattle, WA

Howard Hughes Medical Institute   2023/1 - 2023/12
Research Technician I   Seattle, WA

PUBLICATION AND PRESEANTATIONS

Yu, Y.*,Li, J.*,Bowen, A., Su, K., & Campos, C. (2023). Self-supervised behavior modeling with dense keypoint tracking. In preparation.

- **Yu, Y.***,Li, J.*, Su, K., Bowen, A., & Campos, C. (2023). Self-supervised behavior modeling with dense keypoint tracking. *Computational and Systems Neuroscience (COSYNE 2024) Oral.* *equal contribution

Condon, L., **Yu, Y.**, Park, S., Pauli, J., Nelson, T., & Palmiter, R. (2023). Parabraichial CGRP neurons Regulate Nociceptive Behavior. *Cell Reports.* Accepted

- **Yu, Y.**, .& Palmiter, R. (2023) Calca neurons in parabrachial neurons mediate migraine-like allodynia and chemotherapy-induced pain. *Allen Insitute Postbac+RADS Presentation of Work 2023* Poster presentation and Lightning Talk

Bluett, R.J., **Yu, Y.**, Pauli, J., Campos, C., Palmiter, R. (2024) Stress-induced binge eating are bidirectional regulated by Urocortin Neuron. *Cell Reports.* In Review

RESEARCH EXPERIENCE

Research Interests Keywords: Neuroscience, Computation Modeling, Behavior, Homeostasis
Unsupervised Long Video Behavior Segmentation Algorithm   2023/03 - Present
With Dr. Carlos Campos, Research Assistant, Department of Medicine, UW   *Seattle, WA*

- Building and optimizing algorithm for mice body tracking and behavior segmentation.
- Leading the development of a neural network to extract temporal dynamics from frame-wise video images of mice.
- Independently adapted and integrated the Long Convolution model, a decoder-only transformer, wavenet model for optimizing long video recordings processing.
- Drafted an abstract and developing a poster for the 2024 COSYNE conference; preparing manuscripts for journal.

Parabrachial CGRP-expressing Neurons' Role in Long-lasting Allodynia   2022/06 - Present
With Dr. Richard Palmiter, Research Technician I, Department of Biochemistry, UW, HHMI   *Seattle, WA*

- Conducted independent investigations into the role of $CGRP^{PBN}$ neurons in migraine and chemotherapy-induced peripheral neuropathy pathophysiology. Results currently under review by *Cell Reports*.
- Employed Fos studies, optogenetics, stereotaxic surgeries, and ablation techniques, alongside various behavioral paradigms.
- Initiated independent research to explore the roles of diverse neuronal populations in the parabrachial nucleus, focusing on downstream targets including the PAG, CeA, and RVM in nociceptive pain modulation, using cannula infusion and tracing techniques, and optogenetics.

Edinger-Westphal Ucn1 Neurons Regulation in Food Neophobia and Stress Coping   2020/10 - Present
With Dr. Richard Palmiter, Research Assistant, Department of Biochemistry, UW   *Seattle, WA*

- Investigating the role of Ucn1 Edinger–Westphal neurons in active stress coping and novel food and drink consumption through behavioral paradigms, optogenetics, and fiber photometry. Currently preparing the manuscript.
- Independently conducted computational analysis on fiber photometry data to discern the specific role of Ucn1 neurons in stress-coping mechanisms as distinct from stress activation.

UW CogSic Lab 2021/01 – 2021/08
With Dr. Scott Murray, Undergraduate Research Assistant, Department of Psychology, UW *Seattle, WA*

- Investigated memorability differences in images between individuals with autism spectrum disorder (ASD) and those without, using eye-fixation data and an image memorability test.
- Independently utilized Amazon Mechanical Turk for data collection and developed a MATLAB program to analyze image memorability test results.
- Demonstrated that despite varying eye-fixation patterns, individuals with ASD show similar image memorability rates to non-ASD individuals, suggesting that differences in visual attention do not impact memorability.

PROFESSIONAL EXPERIENCE

Undergraduate Teaching Assistant 2021/09 – 2022/03
University of Washington *Seattle, WA*

- Courses: Psych 355 Cognitive Psychology, Psych 315 Psychology Statistics.
- Conducted office hours, graded homework, reviewed class materials, supported students in project milestones, and facilitated discussions to enhance student engagement.
- Developed and delivered SPSS tutorials for TAs and students in psychology statistics class.

Psychiatrist Medical Intern 2021/07 - 2021/09
Anhui University of Chinese Medicine *Anhui, China*

- Conducted patient interviews and psychological assessments to aid diagnostic processes.
- Managed data entry of patient information and medication prescriptions into the CRM database.

24-hour Crisis Line Volunteer 2021/11 - 2022/12
Seattle, WA

- Handled emergency hotline calls, providing timely assistance in critical situations.
- Documented caller information in the emergency response system (MySQL).

ACADEMIC HONORS

2018-2019 Dean's List
2020-2022 Dean's List
2024 Cosyne Travel Grant ($1000) - Granted for exceptional research proposal in computational neuroscience, facilitating attendance at the Cosyne conference.

EXTRA-CURRICULAR ACTIVITIES

Foundations of International Understanding Through Students (FIUTS) 2018/10 - 2022/12
Volunteer *Seattle, WA*

- Organized regular extracurricular activities for student enjoyment. Coordinated activities, including answering the students' questions and addressing emergencies during the process.
- Planned events including *Bubble Tea Event*, *Chinese Festival Reunion*, *Board Game Night*, *Movie Night*, and *Pen Pal* involving more than 100 international students.

SKILLS & HOBBIES

Language	English, Chinese
Laboratory Skills	Immunohistochemistry, Mice Behavioral Experiments Designs including measuring reflexes and sensory function, motor and co-ordination emotions and cognitive behavior
Software Skills	Adobe Illustrator, Adobe Photoshop, Final Cut Pro Aftereffect, Prism, Origin, ImageJ, Synapses
Programming Language	Python, R Language, JAVA script, MATLAB
Hobbies	Cooking, playing tennis, road biking, snowboarding