|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **NICASIA BEEBE-WANG** | | | | | | | | | | | |
| 2109 N 39th St, Seattle, WA 98103 • 631-521-3542 • nbbwang@cs.washington.edu • https://nicasia.github.io/ | | | | | | | | | | | |
|  | | | | | | | | | | | |
| **EDUCATION** | | | | | | | | | | | |
|  | | | | | | | | | | | |
| **University of Washington** | | | | | | | Seattle, WA | | | | |
| PhD Student, Computer Science and Engineering | | | | | | |  |  |  | 2017 - Present | |
| M.S. in Computer Science | | | | | | |  |  |  | 2019 | |
|  | | | | | | |  |  |  |  | |
| *Advisor*: Su-In Lee | | | | | | |  |  |  |  |  |
| *Research interests:* machine learning and artificial intelligence with applications in health and biology  *Current project:* using multi-task deep learning and interpretability methods to reveal underlying biological   mechanisms of Alzheimer’s disease and molecular targets for intervention | | | | | | | | | | | |
|  |  |  |  |  | | |  |  |  |  |  |
| **Harvard University** | | | | | | | Cambridge, MA | | | | |
| B.A. with Honors in Computer Science; minor in Statistics  Certificate in Mind Brain Behavior | | | | | | |  |  |  |  | 2017 |
|  |  |  |  |  |
| **SKILLS** | | | | | | | | | | | |
|  |  |  |  |  | | |  |  |  |  |  |
| **Programming Languages**: Python, JavaScript, HTML/CSS/PHP, R; familiar with C/C++, MATLAB and SQL | | | | | | | | | | | |
|  | | | | | | | | | | | |
| **Analysis**: machine learning, deep learning (Scikit-learn, PyTorch, TensorFlow, Keras) | | | | | | | | | | | |
|  | | | | | | | | | | | |
| **Other**: GPU & cluster computing, web scraping, Unix/Linux/Windows, data visualization | | | | | | | | | | | |
|  | | | | | | | | | | | |
| **Relevant Coursework**: machine learning, artificial intelligence, data visualization, data science, theory of computation, probability, theoretical statistics, linear algebra, differential equations, computational biology | | | | | | | | | | | |
|  |  |  |  |  | | |  |  |  |  |  |
|  | | | | | | | | | | | |
| **RESEARCH EXPERIENCE** | | | | | | | | | | | |
|  | | | | | | | | | | | |
| **Paul Allen School of Computer Science & Engineering, University of Washington** | | | | | | | | | Seattle, WA | | |
| *Graduate Research Assistant* | | | | | | 2017 - Present | | | | | |
| * Employing machine learning models to gain insights from gene expression and health data for individuals with Alzheimer’s disease, advised by Professor Su-In Lee. | | | | | | | | | | | |
|  | | | | | | | | | | | |
| **Harvard University Department of Molecular and Cellular Biology** | | | | | | | | | Cambridge, MA | | |
| *Undergraduate Research Fellow* | | | | | | | 2016 - 2017 | | | | |
| * Employed deep learning pipelines to process large, next-generation sequencing data on Harvard's high-performance computing cluster. Advised by Professor Sean Eddy. * Senior thesis: “Towards Learning Regulatory Elements of Promoter Sequences with Deep Learning” | | | | | | | | | | | |
|  | | | | | | |  | | | | |
| **Beth Israel Deaconess Medical Center, Center for Sleep and Cognition** | | | | | | | | | Boston, MA | | |
| *Undergraduate Research Fellow* | | | | | | | 2015 - 2016 | | | | |
| * Led a study to collect and analyze polysomnography and EEG datasets to investigate the relationship between dysfunctional sleep architecture and abnormal neural responses to stimuli. | | | | | | | | | | | |
|  | | | | | | |  | | | | |
| **Mt. Sinai Medical School: Neuropsychoimaging of Addiction & Related Conditions Group** | | | | | | | | | | New York, NY | |
| *Undergraduate Research Fellow* | | | | | | | Summer 2014 | | | | |
| * Integrated genetic and fMRI datasets to identify key relationships between a proenkephalin gene polymorphism, error processing, and behavioral traits in cocaine-addicted individuals. Advised by Professors Rita Goldstein and Scott Moeller. | | | | | | | | | | | |
|  |  |  |  |  | | |  |  |  |  |  |
| **Neuropsychoimaging Group, Brookhaven National Laboratory** | | | | | | | | | | Upton, NY | |
| *Research Assistant* | | | | | | | 2011 - 2013 | | | | |
| * Investigated the relationship between single nucleotide polymorphisms in the dopamine transporter gene and neural responses to drug-related stimuli via EEG. * Analyzed longitudinal data from cocaine addicted individuals to identify predictors of relapse. Advised by Professors Rita Goldstein and Scott Moeller. | | | | | | | | | | | |
|  |  |  |  |  | | |  |  |  |  |  |
|  |  |  |  |  | | |  |  |  |  |  |
|  |  |  |  |  | | |  |  |  |  |  |
| **PUBLICATIONS** | | | | | | | | | | | |
|  |  |  |  |  | | |  |  |  |  |  |
| **Beebe-Wang N**, Celik S, Sturmfels P, Lee S-I, “MD-AD: Multi-task deep learning for Alzheimer’s disease neuropathology,”  *ICML Workshop on Computational Biology*, 2019 (Poster; Spotlight Talk) | | | | | | | | | | | |
|  |  |  |  |  | | |  |  |  |  |  |
| **Beebe-Wang N**, Celik S, Lee S-I, “MD-AD: Multi-task deep learning for Alzheimer’s disease neuropathology,” *ICML & IJCAI Workshop on Computational Biology*, 2018 (Poster; Preprint available on *BioRxiv*) | | | | | | | | | | | |
|  |  |  |  |  | | |  |  |  |  |  |
| Moeller SJ, **Beebe-Wang N**, Schneider K, Konova A, Parvaz M, Alia-Klein, N, Hurd Y, Goldstein R. “Effects of an opioid (proenkephalin) polymorphism on neural response to errors in health and cocaine use disorder,” *Behavioural Brain Research*, 2015 | | | | | | | | | | | |
|  |  |  |  |  | | |  |  |  |  |  |
| Moeller SJ, Parvaz MA, Shumay E, Wu S, **Beebe-Wang N**, Konova AB, Misyrlis M, Alia-Klein N, Goldstein RZ. “Monoamine polygenic liability in health and cocaine dependence: Imaging genetics study of aversive processing and associations with depression symptomology,” *Drug and Alcohol Dependence*, 2014 | | | | | | | | | | | |
|  |  |  |  |  | | |  |  |  |  |  |
| Moeller SJ, **Beebe-Wang N**, Woicik PA, Konova AB, Maloney T, Goldstein RZ. “Choice to view cocaine images predicts concurrent and prospective drug use in cocaine addiction,” *Drug and Alcohol Dependence*, 2013 | | | | | | | | | | | |
|  |  |  |  |  | | |  |  |  |  |  |
| Moeller SJ, Parvaz MA, Shumay E, **Beebe-Wang N**, Konova AB, Alia-Klein N, Volkow ND, Goldstein RZ. “Gene ×  abstinence effects on drug cue reactivity in addiction: multimodal evidence,” *Journal of Neuroscience*, 2013 | | | | | | | | | | | |
|  |  |  |  |  | | |  |  |  |  |  |
|  |  |  |  |  | | |  |  |  |  |  |
| **TEACHING** | | | | | | | | | | | |
| **University of Washington** | | | | | | | | | |  | |
| CSE 547: Machine Learning for Big Data | | | | | | | | | | Spring, 2019 | |
| CSE 427: Computational Biology | | | | | | | | | | Winter, 2020 | |
|  |  |  |  |  | | |  |  |  |  |  |
|  |  |  |  |  | | |  |  |  |  |  |
| **AWARDS** | | | | | | | | | | | |
|  |  |  |  |  | | |  |  |  |  |  |
| ICML Workshop on Computational Biology Travel Award | | | | | | | | | | 2019 | |
| Jeff Dean - Heidi Hopper Endowed Regental Fellowship in Computer Science & Engineering | | | | | | | | | | 2017 | |
| Valedictorian of Westhampton Beach High School | | | | | | | | | | 2013 | |
| National Intel Science Talent Search Semifinalist | | | | | | | | | | 2013 | |
| National Merit Scholarship Recipient | | | | | | | | | | 2013 | |
| National AP Scholar with Distinction | | | | | | | | | | 2013 | |
| Paul Harris Fellowship for Outstanding Commitment to the Community | | | | | | | | | | 2013 | |
|  |  |  |  |  | | |  |  |  |  |  |
|  |  |  |  |  | | |  |  |  |  |  |
| **ACTIVITIES** | | | | | | | | | | | |
|  | | | | | | | | | | | |
| **New Graduate Student Orientation Committee** | | | | | | | 2018 | | | | |
| *Organizer* | | | | | | |  |  |  |  |  |
| * Organize welcome events that help incoming PhD students learn about campus resources, departmental policies, and opportunities for community involvement. | | | | | | | | | | | |
|  |  |  |  |  | | |  |  |  |  |  |
| **Mentorship** | | | | | | |  | | | | |
| *Society for Women Engineers Mentor* | | | | | | | 2017 - 2018 | | | | |
| * Advise undergraduate women at the University of Washington who aspire to pursue engineering careers. * Met monthly to discuss coursework, how to become involved in research, graduate school options, etc. | | | | | | | | | | | |
|  | | | | | | | | | | | |
| *UW CSE Peer Mentor* | | | | | | | 2018 - Present | | | | |
| * Meet monthly with new PhD students to offer advice and experiences with adjusting to graduate school. | | | | | | | | | | | |
|  | | | | | | | | | | | |
| **Radcliffe Varsity Lightweight Crew** | | | | | | | 2013 - 2015 | | | | |
| *Rower* | | | | | | |  |  |  |  |  |