

Parker L. B. Knight

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Education

B.A. in Mathematics, University of Florida, Gainesville, FL
Minor in Computer Science
Expected Graduation: Spring 2020
GPA: 3.98 (4.0 Major)

Experience

Student Researcher

Dept. of Mathematics, University of Florida, Gainesville, FL Sept. 2018 - Dec. 2018

- Analyzed mathematical models of spiking neuronal systems
- Processed experimental data with numerical curve-fitting techniques

Software Engineer Intern

ITProTV, Gainesville, FL May 2018 - Aug. 2018

- Developed REST API endpoints used across a microservice architecture
- Wrote front-end features used directly in customer-facing products
- Collaborated with team members, including participation in sprint planning sessions and pair programming

Research Assistant

Febo Lab, McKnight Brain Institute, Gainesville, FL April 2018 - Present

- Designed and developed audio processing pipeline for analysis of animal vocalizations, including filtering and feature extraction
- Executed machine learning classification of complex audio data to study the behavioral effects of drug treatments
- Processed resting state fMRI images for use in functional connectivity studies

Research Programmer

Digital Worlds Institute, University of Florida, Gainesville, FL Jan. 2018 - Present

- Built visual learning games with WebVR technologies
- Practiced remote development techniques with Git and weekly video calls

Research Assistant

Bruijnzeel Lab, McKnight Brain Institute, Gainesville, FL Sept. 2016 - Present

- Planned and executed behavioral neuroscience experiments, including Large Open Field, Elevated Plus Maze, and Novel Object Recognition tests
- Analyzed behavioral data using clustering methods and hypothesis testing
- Communicated results to Principal Investigators, through visualizations, formal reports, and presentations

Involvement

Learning Assistant

Dept. of Mathematics, University of Florida, Gainesville, FL Aug. 2018 - April 2019

- Lead group discussion of course material with undergraduate students
- Assisted students with homework and classwork
- Courses taught: Analytical Geometry and Calculus 1, Analytical Geometry and Calculus 2

Executive Board Member

Center for Undergraduate Research Board of Students, University of Florida, Gainesville, FL
May 2018 - April 2019

- Coordinated and led production of video content to promote research-related events
- Met with faculty and other board members to manage the Center's website content

Peer Advisor

Center for Undergraduate Research Board of Students, University of Florida, Gainesville, FL
August 2017 - May 2018

- Held office hours twice weekly to provide assistance to undergraduate students in finding research opportunities on campus
- Advised students in enhancing their research experience through scholarships and presentations

Publications

Accepted

- *Effects in rats of adolescent exposure to cannabis smoke or THC on emotional behavior and cognitive function in adulthood.*
Adriaan W. Bruijnzeel, Parker Knight, Stefany Panunzio, Song Xue, Matthew M. Bruner, Shannon C. Wall, Marjory Pompilus, Marcelo Febo, and Barry Setlow, to Psychopharmacology.

Submitted

- *Sex differences in the reward deficit and somatic signs associated with precipitated nicotine withdrawal in rats.*
Sijie Tan, PhD; Song Xue, PhD; Azin Behnood-Rod, MD; Ryann Wilson; Parker Knight; Stefany Panunzio; Hannah Lyons; Marcelo Febo, PhD; to Neuropharmacology.

Presentations

- "Virtual Reality-based Learning Games for Computer Science Education"
Spring Undergraduate Research Symposium, Gainesville, FL April 2019
- "Sex Differences in Rodent Behavior: a Hierarchical Clustering Analysis"
UF College of Medicine Poster Session, Gainesville, FL February 2019
- "Machine Learning Classification of Ultrasonic Animal Vocalizations"
Fall Undergraduate Research Symposium, Gainesville, FL November 2018
- "Adolescent Cannabis Smoke Exposure Does Not Affect Anxiety or Depressive-like Behavior in Male and Female Rats in Adulthood"
Center for Addiction Research and Education Spring Symposium, Gainesville, FL April 2018
- "Long Term Behavioral Effects of Cannabis Smoke in Rats"
Fall Undergraduate Research Symposium, Gainesville, FL November 2017

Academic Honors

College of Liberal Arts and Sciences Dean's List	All Semesters
Anderson Scholar with High Distinction	2018
University Scholars Research Scholarship (\$1750)	2018
University Scholars Research Scholarship (\$1750)	2017
Student Honors Organization	2016

Skills

Languages: R, Python, Haskell, C++, JavaScript, Elm
Software: Linux, Git, Docker, MongoDB, SQLite

Additional projects available on Github, and/or by request.