PARKER KNIGHT

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EDUCATION

PhD in Biostatistics, Harvard University, Cambridge, MA
Expected Graduation: May 2026

B.S. in Mathematics, University of Florida, Gainesville, FL
Graduated December 2020
GPA: 3.98

EXPERIENCE

Quantitative Research Assistant — Jan. 2021 - July 2021
Randolph Group, Fred Hutchinson Cancer Research Center — *Seattle, WA*

Research Assistant — Aug. 2019 - Dec. 2020
Bacher Group, Dept. of Biostatistics, University of Florida — *Gainesville, FL*

Research Intern — June 2019 - Aug. 2019
Randolph Group, Fred Hutchinson Cancer Research Center — *Seattle, WA*

Software Developer — Aug. 2018 - April 2019
Digital Worlds Institute, University of Florida — *Gainesville, FL*

Software Engineer Intern — May 2018 - Aug. 2018
ITProTV — *Gainesville, FL*

Research Assistant — April 2018 - April 2019
Febo Lab, McKnight Brain Institute — *Gainesville, FL*

Research Assistant — Sept. 2016 - April 2019
Bruijnzeel Lab, McKnight Brain Institute — *Gainesville, FL*

PUBLISHED WORK

Journal Articles

- **Knight, P.**, Pardo, C.E., Darst, R.P., Riva, A., Gauthier, M.L., Kladde, M.P., Bacher, R. (2020). methylscaper: an R/Shiny app for joint visualization of DNA methylation and nucleosome occupancy in single-molecule and single-cell data. *Accepted in Bioinformatics.*
- Bacher, R., Chu, L., Argus, C., Bolin, J., **Knight, P.**, Thomson, J., Stewart, R., Kendziorski, C. (2020). Enhancing biological signals and detection rates in single-cell RNA-seq experiments with cDNA library equalization. *Submitted.*
- Darden, D.B., Bacher, R., Brusko, M.A., **Knight, P.**, Hawkins R.B., Cox M.C, Dirain M.L., Ungaro R., Nacionales D.C., Rincon J.C, Gauthier M.L, Kladde M., Bihorac A., Brusko T.M., Moore F.A, Brakenridge S.C., Mohr A.M., Moldawer L.L., Efron, P. (2020). Single cell RNA-seq of human myeloid derived suppressor cells in late sepsis reveals multiple subsets with unique transcriptional responses: a pilot study. *Accepted in Shock: Injury, Inflammation, and Sepsis: Laboratory and Clinical Approaches.*

- **Knight, P.**, Chellian, R., Wilson, R., Behnood-Rod, A., Panunzio, S., Bruijnzeel, A.W. (2020). Comprehensive evaluation of sex differences in the elevated plus-maze test and large open field test in adult Wistar rats. *Submitted.*
- Chellian, R., Behnood-Rod, A., Wilson, R., Wilks, I., **Knight, P.**, Febo, M., Bruijnzeel, A. W. (2020). Exposure to smoke from high-but not low-nicotine cigarettes leads to signs of dependence in male rats and potentiates the effects of nicotine in female rats. *Pharmacology Biochemistry and Behavior*, 172998.
- Chellian, R., Wilson, R., Polmann, M., **Knight, P.**, Behnood-Rod, A., Bruijnzeel, A. W. (2020). Evaluation of sex differences in the elasticity of demand for nicotine and food in rats. *Nicotine and Tobacco Research*, 22(6), 925-934.
- Tan, S., Xue, S., Behnood-Rod, A., Chellian, R., Wilson, R., **Knight, P.**, Panunzio, S., Lyons, H., Febo, M., Bruijnzeel, A. W. (2019). Sex differences in the reward deficit and somatic signs associated with precipitated nicotine withdrawal in rats. *Neuropharmacology*, 160, 107756.
- Bruijnzeel, A. W., **Knight, P.**, Panunzio, S., Xue, S., Bruner, M. M., Wall, S. C., Pompilus, M., Febo, M., Setlow, B. (2019). Effects in rats of adolescent exposure to cannabis smoke or THC on emotional behavior and cognitive function in adulthood. *Psychopharmacology*, 236(9), 2773-2784.

Software

- methylscaper: An R package and Shiny app for visualizing methylation state data. Available on GitHub.
- KPR: An R package for fitting kernel-penalized regression models with valid inference. Available on GitHub.
- scaffold: Experiment-driven simulations of single-cell RNA-seq data. Available on GitHub.

PRESENTATIONS

Poster Presentations

- "Estimation and inference for high dimensional, doubly-structured regression models", Fall Undergraduate Research Symposium, Gainesville, FL, October 2019
- "Estimation and inference for high dimensional, doubly-structured regression models", Fred Hutchinson Cancer Research Center Poster Session, August 2019
- "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", 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

HONORS AND AWARDS

NSF Graduate Research Fellowship ($138,000)	2021 - 2026
Honorable Mention in COMAP's Mathematical Contest in Modeling	2020
Fred Hutch Translational Data Science IRC Planning Funds ($5000)	2019
Phi Beta Kappa Academic Honor Society	2019
Fred Hutchinson Summer Undergraduate Research Program ($7250)	2019
College of Liberal Arts and Sciences Dean's List	All Semesters
UF Anderson Scholar with High Distinction	2018
UF University Scholars Research Scholarship ($1750)	2018
UF University Scholars Research Scholarship ($1750)	2017
UF Student Honors Organization	2016

ACADEMIC SERVICE

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

· Courses: Analytical Geometry and Calculus 1, Analytical Geometry and Calculus 2

Director of Multimedia May 2018 - April 2019
Center for Undergraduate Research, University of Florida *Gainesville, FL*

Peer Advisor Aug. 2017 - May 2018
Center for Undergraduate Research, University of Florida *Gainesville, FL*

SKILLS

Languages:	R, Python, Haskell, C++, JavaScript
Operating systems:	MacOS, Ubuntu, Fedora
Software:	Git, Docker, SQLite