# Yoolkyu Park

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## EDUCATION

***The University of North Carolina at Chapel Hill*** | *Chapel Hill, NC*
***BS in Statistics & Analytics, Mathematics*** *Aug 2025 - May 2027*

***The University of Texas at Dallas*** | *Richardson, TX*
***Coursework in Data Science, Mathematics*** | *(Transferred)* | *GPA: 3.84/4.00* *Aug 2023 - May 2025*

## SELECTED RESEARCH PROJECTS

***SASHIMI: Spatial Analysis for Segmented Histopathology Images using Machine Intelligence***
*First Author*
- Built and automated **reproducible Python/R analysis pipelines** to process, validate, and summarize large-scale biomedical datasets (37.5M+ observations) into structured feature tables for downstream statistical analysis.
- Implemented **data validation, batch-level QC, and consistency checks** to ensure robustness and comparability across cohorts, experimental settings, and parameter choices.
- Developed scalable workflows to **benchmark analytic methods**, evaluating stability, sensitivity, and downstream modeling impact to support method selection.
- Conducted **risk-score–based survival analyses**, correlating spatial feature representations with clinical outcomes using Kaplan–Meier estimation and Cox proportional hazards models.
- Generated **interpretable survival summaries** (e.g., hazard ratios, log-rank tests, subgroup statistics such as average survival time and patient demographics) for statistically significant spatial features.

## RELEVANT EXPERIENCE

***Department of Mathematical Science, UT Dallas*** | *Richardson, TX* *Aug 2024 - Oct 2025*
*Undergraduate Researcher | Advisor: Dr. Qiwei Li*
- Maintained and documented version-controlled statistical analysis workflows (Git/GitHub) to support reproducibility, review, and iterative refinement in collaborative research settings.

**Semicat Inc.**| *Richardson, TX* *May 2022 - Aug 2022*
*Summer SWE intern*
- Performed data wrangling, quality checks, and consistency validation on relational datasets, improving reliability of downstream analytics and reporting workflows.

## PUBLICATION

**Y. Park**, F. Wu, X. Feng, S. Yang, E. H. Wang, B. Yao, C. Moon, G. Xiao, and Q. Li, " Spatial Analysis for AI-segmented Histopathology Images: Methods and Implementation," Submitted. arXiv:[**https://arxiv.org/abs/2512.06116**]

## AWARDS & HONORS

- ***Best Student Poster Award*** — **EAC-ISBA 2025.**
- ***Travel Award*** — **Statistics Undergraduate Research Experience, SRCOS 2025.**
- ***Full-time Undergraduate Research Studentship*** ($3,000), **UT Dallas, 2024**
- ***Undergraduate Research Scholar Award*****, UT Dallas, 2024**

## TECHNICAL SKILLS

**Programming: Python, R, SQL**
**Statistical Modeling: survival analysis (Cox), functional PCA, high-dimensional statistics**
**Data & Automation: reproducible workflows, batch processing, data validation**
**Tools: NumPy, Pandas, SciPy, scikit-learn, Matplotlib, Git/GitHub**