

# Conglin (Duke) Ruan

908 Fulton St. SE, Minneapolis, 55414 | +1 651-280-7402 | [ruanx070@umn.edu](mailto:ruanx070@umn.edu)

## EDUCATION

University of Minnesota Twin-Cities, MN

GPA: 3.83/4.00

*M.S Biostatistics*

Expected Graduation 05/2026

University of Minnesota Twin-Cities, MN

*B.S Statistical Science with minor in Computer Science*

09/2016 - 05/2022

## SKILLS

Programming: Python, R, SQL, SAS

Framework & Tools: Pytorch, MySQL, Tensorflow, Docker, ggplot, Tableau, Photoshop, Power BI, REDCap

## WORKING EXPERIENCES

### Graduate Research Assistant

*University of Minnesota Medical School, Twin Cities*

08/2024 - present

- **Implemented state-of-the-art segmentation models** (U-Net, Med-SAM, and DeepLabV3) to enhance fibrosis and cell infiltration detection, achieving expert-verified accuracy in histopathology images.
- **Developed a robust data-processing pipeline** for microscopic imaging from multiple devices and formats, incorporating interactive parameters that improved result interpretability for high-level research insights.
- **Conducted survival analyses** on recurrent venous thromboembolism using Kaplan-Meier, Cox proportional hazards, and competing risk models, identifying risky factors.

### Researcher 1

*University of Minnesota Medical School, Twin Cities*

02/2022 - 08/2024

- **Automated cell classification** via convolutional neural networks, reaching 97% accuracy on 20,000+ samples and saving ~2 months of manual labor.
- **Performed complex statistical analyses** and data visualizations using PRISM for academic posters and peer-reviewed publications.
- **Optimized bio-image collection workflows** by collaborating with lab technicians and applying advanced deep learning, reducing background noise sixfold and improving data integrity and quality control.
- **Reported analytical outcomes weekly** to stakeholders via Excel dashboards, Tableau visualizations, and PowerPoint presentations, Delivering clear, data-driven recommendations to stakeholders.

### Research Assistant

*University of Minnesota Carlson School of Management, Twin Cities*

09/2021 - 12/2021

- **Automated the extraction of proxy statements** for 10,000 public companies from the SEC's EDGAR database, significantly speeding data collection processes.
- **Employed textual analysis techniques**, such as Naive Bayes and C-SVM, to reduce demographic information inaccuracies in corporate board directories by 90%.
- **Ingested and indexed extracted filings into a structured SQL database**, enabling rapid querying and simplifying future updates for academic research.

## AWARDS

Undergraduate Scholarship

16000 USD/year

Graduate Scholarship

10000 USD/semester

## PUBLICATION

MASP-2 and MASP-3 inhibitors block complement activation, inflammation, and microvascular stasis in a murine model of vaso-occlusion in sickle cell disease *Translational Research* <https://doi.org/10.1016/j.trsl.2022.06.018>

Cold Exposure Induces Vaso-Occlusion and Hyperalgesia in Mice with Sickle Cell Disease That Is Dependent on Complement Activation *Blood* <https://doi.org/10.1182/blood.2022019282>