

Jannat Chehal

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Education

Jan. 2026 – present	Ph.D., Computer Science Virginia Commonwealth University, Richmond, VA
Aug. 2024 – Dec. 2025	M.S., Computer Science Virginia Commonwealth University, Richmond, VA Thesis: <i>Relationship Extraction Using Retrieval Augmented Generation for Biomedical Datasets</i>
Jul. 2023 – May 2024	Master of Computer Applications CHRIST University, Bangalore, India
Jul. 2019 – May 2022	B.S., Applied Physical Science University of Delhi, New Delhi, India

Honors & Awards

Summer 2025	cMEDA Summer Student Scholarship (\$3,000). Center for Microbiome Engineering & Data Analysis (cMEDA), Virginia Commonwealth University — awarded to support a summer research project with Dr. Bridget T. McInnes.
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Research Interests

- Machine Learning, Multimodal AI, and Natural Language Processing
- Vision–language models and information extraction from scientific figures
 - Robustness of multimodal models to noisy, real-world inputs
 - Accessibility of visual data for blind and low-vision users
 - Retrieval-augmented generation and biomedical text mining

Research Experience

Jan. 2026 – present	Graduate Research Assistant (Ph.D.). Bioinformatics & Machine Learning Lab, Virginia Commonwealth University. Building and comparing vision–language models (e.g., ViT (Vision Transformer Model), DePlot) for chart understanding, focusing on robustness to noisy scientific figures and on making visual data accessible to blind and low-vision users.
Jan. 2025 – Dec. 2025	Research Assistant. Natural Language Processing Lab, Virginia Commonwealth University. Developed Retrieval-Augmented Generation (RAG) pipelines with LLMs for relationship extraction from 1,500+ biomedical abstracts; work culminated in an MS thesis and the BioASQ 2025 shared-task paper below.

Publications

1. Taylor, S., Dil, C., Shah, A., **Jannat**, Oldham, C., Upadhyay, A., Varughese, J., Yazbeck, N., & McInnes, B. T. *NLP@VCU at BioASQ 2025: Information Extraction on the GutBrainIE Dataset*. *BioASQ Workshop, Conference and Labs of the Evaluation Forum (CLEF)*, 2025.
2. **Jannat**, Dil, C., Arodz, T., & McInnes, B. T. *Biomedical Retrieval-Augmented Generation for Relationship Extraction*. In submission.
3. **Jannat** (2025). *Relationship Extraction Using Retrieval Augmented Generation for Biomedical Datasets*. M.S. Thesis, Virginia Commonwealth University.

Projects

- Adversarial Training of YOLO for Aerial Imagery** [code] : Python, PyTorch, YOLOv11
Tennis Video Analysis System [code] : Python, YOLOv8, OpenCV, Streamlit

Automated Tender-Document Web Crawler : Python, Selenium Web Scraping

RideShare, Real-Time Carpooling App [code] : React Native, Firebase, Node.js, OpenStreet Map

Teaching Experience

- Sep. 2025 – Dec. 2025 Teaching Assistant. *Introduction to Electrical Engineering*
- Sep. 2025 – Dec. 2025 Grading Assistant. *Advanced Algorithms*
- Sep. 2024 – Dec. 2024 Teaching Assistant. *Programming Using C*

Professional Experience

- Jun. 2025 – Jul. 2025 Graduate Student Software Engineer. Engineering Career Services, Virginia Commonwealth University. Built and deployed a student–alumni mentoring interface (Google Apps Script) used by 200+ students.
- Oct. 2021 – Feb. 2022 Software Engineer Intern. Raceme Tenders LLP, Delhi, India. Migrated a legacy PHP/MySQL site to AWS in a three-person team; built a web crawler extracting 500+ documents daily.

Leadership & Volunteering

- Feb. 2025 – Apr. 2025 Data Analyst (Volunteer), Women of Connections (nonprofit organization).
- Jul. 2019 – May 2021 Core Member, Computer Science Club. University of Delhi
- Jul. 2021 – May 2022 Vice President, Computer Science Club. University of Delhi
- Jul. 2020 – May 2022 Volunteer, Enactus Society. University of Delhi

References

Dr. Tomasz Arodz, Associate Professor of Computer Science, Virginia Commonwealth University

Dr. Bridget T. McInnes, Associate Professor of Computer Science, Virginia Commonwealth University

Trishabh Chadda, Principal Engineering Manager, Microsoft