Carla Floricel

Visual Analytics | Visual Data Science | HCI | UI
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Education

University of Illinois at Chicago — *Chicago, Il*
Ph.D. in Computer Science — *Aug. 2019 - present*

Politehnica University of Bucharest — *Bucharest, Romania*
B.S. in Computer Science — *Aug. 2015 - May. 2019*

Work Experience

Electronic Visualization Laboratory, University of Illinois at Chicago — *UIC, Chicago, IL*
Research Assistant — *August 2019 – present*

- Research on visual analytics for cohorts with cancer, biomarker, and aircraft simulation data.
- Primarily building medical visualization tools.
- Client interviewing, prototyping, design, development, evaluation.

University of Illinois Cancer Center - Diversity in Cancer Research (DICR) — *UIC, Chicago, IL*
Research Supervisor — *June 2023 - August 2023*

- Co-mentored an under-represented high school student.
- Funded by an American Cancer Society Institutional Research Grant.

Computer Science Department, University of Illinois at Chicago — *UIC, Chicago, IL*
Teaching Assistant — *2022, 2020, 2019 Fall Semesters*

- Introductory programming and data visualization classes.
- Office hours, lab presentations and supervision, assignment grading.

OpenDBM, AiCure — *AiCure, New York, NY*
Research Intern — *June 2022 - August 2022*

- Created an open source visual analytics tool for digital biomarkers.
- Client interviewing, prototyping, design, development, evaluation.

Unicredit Business Integrated Solutions — *Unicredit Services, Bucharest, Romania*
Junior Full Stack Developer — *April 2018 – January 2019*

- Developed and tested features for the company's bank client web application.
- Development, bug solving, and data cleaning for production deployment.

Technologies and Skills

React, d3.js, JS, Python, Pandas, HTML, CSS, Unity, C#, Git, SQL, MongoDB, Adobe XD, Docker

- Coding, problem-solving, prototyping, sketching, client interviewing, teamwork, time management.

Publications / Posters

Roses Have Thorns: Understanding the Downside of Oncological Care Delivery Through Visual Analytics and Sequential Rule Mining — *2023*
C. Floricel, A. Wentzel, A.S. Mohamed, C.D. Fuller, G. Canahuate, G.E. Marai — *IEEE VIS*

DASS Good: Explainable Data Mining of Spatial Cohort Data *2023*

A. Wentzel, **C. Floricel**, G. Canahuate, M.A. Naser, A.S. Mohamed, C.D. Fuller, L.V. Dijk, G.E. Marai *EuroVis*

Opening Access to Visual Exploration of Audiovisual Digital Biomarkers: an OpenDBM Analytics Tool *2022*

C. Floricel, J. Epifano, S. Caamano, S. Kark, R. Christie, A. Masino, A.D. Paredes *IEEE VIS Biomedical AI*

Visual Analysis and Detection of Contrails in Aircraft Engine Simulations *2022*

N. Nipu, **C. Floricel**, N. Naghashzadeh, R. Paoli, G.E. Marai *IEEE VIS*

THALIS: Human-Machine Analysis of Longitudinal Symptoms in Cancer Therapy *2021*

C. Floricel, N. Nipu, A. Wentzel, G. Canahuate, L.V. Dijk, A.S. Mohamed, C.D. Fuller, G.E. Marai *IEEE VIS*

Identifying Symptom Clusters from Patient Reported Outcomes through Association Rule Mining *2021*

M. Biggs, **C. Floricel**, L.V. Dijk, A.S. Mohamed, C.D. Fuller, G.E. Marai, X. Zhang, G. Canahuate *AIME*

Parameter Analysis and Contrail Detection of Aircraft Engine Simulations (Poster) *2021*

N. Nipu, **C. Floricel**, N. Naghashzadeh, R. Paoli, G.E. Marai *IEE VIS LDAV*

Visualizing Symptom Development During Head and Neck Cancer Treatment (Poster) *2020*

C. Floricel, A. Wentzel, N. Nipu, G. Canahuate, L.V. Dijk, C.D. Fuller, G.E. Marai *IEEE VIS*

Research Projects

Visual Analytics for Supervised Prediction of Patient Symptoms *UIC, Chicago, IL*

Graduate Research Project *April 2023 – Present*

- Visualization system for designed to predict symptoms after the completion of cancer treatment.
- Analysis of longitudinal treatment toxicity and model building.

Image+Text Search System for Biocuration *UIC, Chicago, IL*

Graduate Research Project *June 2023 – Aug 2023*

- Evaluation and maintenance of search interfaces for mouse gene expressions.
- Maintaining an active learning system for searching and labeling documents using figures.

Visual Analytics for Human Epilepsy *UIC, Chicago, IL*

Graduate Research Project *Apr 2023 – Present*

- Design and task analysis for a system used for detecting brain seizures.

Visual Analytics for Treatment Comparison Based on Longitudinal Symptoms *UIC, Chicago, IL*

Graduate Research Project *June 2021 – March 2023*

- Visualization system for predicting symptoms after the completion of cancer treatment.
- Analysis of longitudinal treatment toxicity using sequential rule mining.

HCI Evaluation of Visual Analytics System *UIC, Chicago, IL*

HCI Methods Class Project *Feb 2023 – Apr 2023*

- User study for evaluating a visual analytics system for model builders in oncology.
- Oualitative and quantitative methods to evaluate user experience, use, non-use, and trust.

Visual Analytics Tool for Digital Biomarkers *AiCure, New York, NY*

Summer Internship Research Project *June 2022 – August 2022*

- Interface for the OpenDBM open source project analyzing both individuals and cohorts.
- Visual analysis of digital biomarkers extracted from audio and video sources.

Visual Analytics of Global Fishing *UIC, Chicago, IL*

Visual Analytics Class Group Project *Sep 2021 – Dec 2021*

- Visual Analytics of illegal, unreported, and unregulated (IUU) fishing around the globe.
- Detection of IUU based on longitudinal vessel activity.

High-performance Computing and Data-driven Modeling of Aircraft Contrails *UIC, Chicago, IL*

Graduate Research Project *November 2020 – June 2022*

- Visualizing contrail formation from aircraft simulations.
- Visual analysis for I/O simulation parameters and ensemble members.

CAVE2 Airport Control Simulator *UIC, Chicago, IL*

Game Design Class Group Project *March 2020 – May 2020*

- Airport control simulator for a large-scale virtual-reality environment.
- Designed and developed for CAVE2 at EVL.

Visualizing Symptom Development for Head and Neck Cancer Patients *UIC, Chicago, IL*

Graduate Research Project *January 2020 – April 2021*

- Visualization system for head and neck cancer cohort analysis.
- Analysis of symptom clustering using association rule mining and symptom development.

vINCI: Clinically-Validated Integrated Support for Assistive Care and Lifestyle Improvement, the Human Link *Politehnica University Bucharest, Romania*

Bachelor's Thesis *December 2018 – May 2019*

- Designed, tested, and developed an interface for improving older adults' QoL using IoT.
- Second prize for best research project presentation at a Politehnica University competition.

Talks and Presentations

Oct 2022	**Opening Access to Visual Exploration of Audiovisual Digital Biomarkers: an OpenDBM Analytics Tool**, Presented during the IEEE VIS 2022 Visualization in Biomedical AI Workshop	*Oklahoma City, OK*
Sept 2022	**OpenDBM Summer Internship**, Virtually presented my experience and results to the company at the end of my internship	*AiCure, NY*
April 2022	**THALIS:Human-Machine Analysis of Longitudinal Symptoms in Cancer Therapy**, Poster presented during the CRA-WP Grad Cohort for Women Workshop	*New Orleans, LA*
Oct 2021	**THALIS:Human-Machine Analysis of Longitudinal Symptoms in Cancer Therapy**, Paper presented during one of the IEEE VIS 2021 satellite events.	*Chicago, IL*
May 2021	**A personal experience: the doctoral program in the USA**, Presented graduate study opportunities in the USA for Romanian students	*Politehnica University Bucharest, Romania*
Feb 2021	**Visual Analysis of Patient Timelines**, Ph.D. Qualifier Examination	*UIC, Chicago, IL*

Volunteering

IEEE EuroVis 2022, IEEE VIS 2022 - 2023, CGF 2023

Paper Reviewer *2022, 2023*

- Reviewed full papers.

IEEE VIS 2021, 2022, 2023

Student Volunteer *2021, 2022, 2023*

- Revised presentation videos and moderated online platforms.
- Moderated in person sessions and helped with conference registration.
- Student volunteer captain in 2023.

Electronic Visualization Laboratory

Student Volunteer *September 2019 - Present*

- Conducted student visits, conducted demos for students with the lab's technologies.
- Presented my research projects to faculty candidates.