Carla Floricel

VISUAL ANALYTICS | VISUAL DATA SCIENCE | HCI | UI

PH.D. CANDITATE · UNIVERSITY OF ILLINOIS AT CHICAGO

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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.

Epsilon — *Chicago, IL*
PhD DATA VISUALIZATION INTERN — *May 2024 - August 2024*

- Developed a fully working prototype for the company's digital advertising services and platform (DiME).
- Prototyped, designed, and developed a visual component for companies to better understand client behavior.

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.

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.

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

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

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, prototyping, client interviewing, system evaluation 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

MouseScholar: Evaluating an Image+Text Search System for Biocuration

2023

J. T. Trabucco, C. Floricel, C. Arighi, H. Shatkay, D. Raciti, M. Ringwald, G.E. Marai

IEEE BIBM

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 Head and Neck Cancer Patient Cohorts

UIC, Chicago, IL

Graduate Research Project

Sept 2019 – Present

- Novel encodings to summarize patient cohorts and their temporal, multivariate characteristics.
- Patient data modeling using association and sequential rule mining, clustering.
- Support model actionability and interpretability using visual data science.
- Enhance multidisciplinary clinician-modeler collaborations in precision medicine.

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.
- Qualitative 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
VISUAL ANALYTICS CLASS GROUP PROJECT

UIC, Chicago, IL
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
GRADUATE RESEARCH PROJECT

UIC, Chicago, IL
November 2020 – June 2022

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

CAVE2 Airport Control Simulator
GAME DESIGN CLASS GROUP PROJECT

UIC, Chicago, IL
March 2020 – May 2020

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

vINCI: Clinically-Validated Integrated Support for Assistive Care and Lifestyle Improvement, the Human Link
BACHELOR'S THESIS

Politehnica University
Bucharest, Romania
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

Aug 2024	**Epsilon Internship**, Virtually presented the resulting prototype	*Epsilon, Chicago*
Oct 2023	**Roses Have Thorns: Understanding the Downside of Oncological Care Delivery Through Visual Analytics and Sequential Rule Mining**, Paper presented during the IEEE VIS 2023 conference	*Melbourne, Australia*
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 Internship**, Virtually presented the resulting visual system prototype	*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 the IEEE VIS 2021 conference and at one of the 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 - 2024, CGF 2023
FULL PAPER REVIEWER

2022 - 2024

IEEE VIS 2021 - 2024
STUDENT VOLUNTEER (2023 CAPTAIN)

2021 - 2024

- Moderated in person/online sessions, revised presentation videos, and helped with conference registration.

Electronic Visualization Laboratory
STUDENT VOLUNTEER

September 2019 - Present

- Conducted student/faculty visits, conducted demos for students and faculty.