



hci lab

HUMAN X COMPUTER INTERACTION

"Design for Graphical Thinking & Intuitive Interaction"

Information
Visualization

Visual
Analytics

HCI

XAI

About Us

Jinwook Seo, Ph.D.



Jinwook Seo, Ph.D.

Director, HCIL

Professor, Dept. of CSE

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RESEARCH AREA

Human-Computer Interaction

Information Visualization

Explainable AI (XAI)

Biomedical Informatics

ACADEMIC DEGREES

Ph.D. Dept. of Computer Science (**Human-Computer Interaction**)
University of Maryland, College Park

M.S. Dept. of Computer Science & Statistics (**Artificial Intelligence**)
Seoul National University

B.S. Dept. of Computer Science & Statistics, Seoul National University

CURRENT MEMBERS

9

Ph.D. Students

8

M.S. Students

5

Interns

COLLABORATORS



SAMSUNG



THE UNIVERSITY
of NORTH CAROLINA
at CHAPEL HILL

UNIST

KAIST

+ etc...



Stanford University

NAVER



UC DAVIS



ACADEMIA



+ etc...



INDUSTRY

SAMSUNG



NAVER

kakao

+ etc...



>koscom

TmaxSoft

About Us

Human-Computer Interaction Laboratory (HCIL)

FOCUSED RESEARCH AREAS

HCI

Information
Visualization

Visual Analytics

XAI

FOCUSED CONFERENCE VENUES

IEEE VIS

ACM CHI

ACM UIST

ACM IUI

EG EuroVis

IEEE PacificVis

...

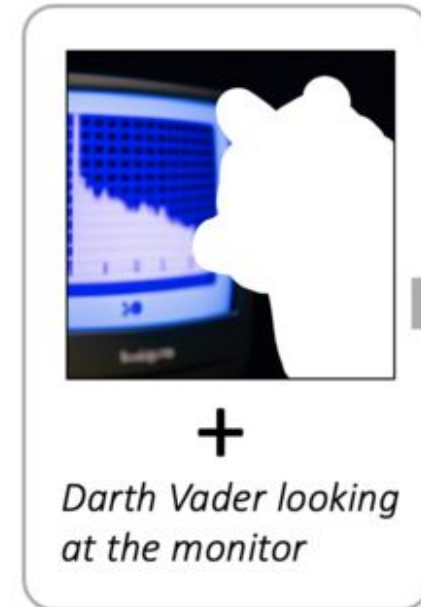
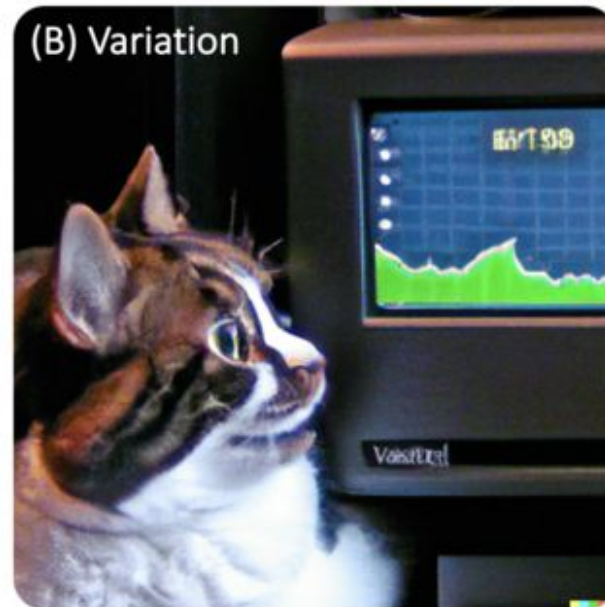
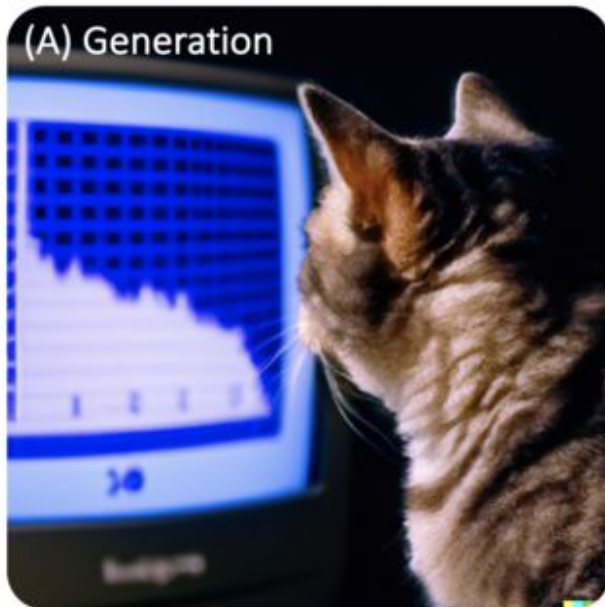
WEBSITE

hcil.snu.ac.kr

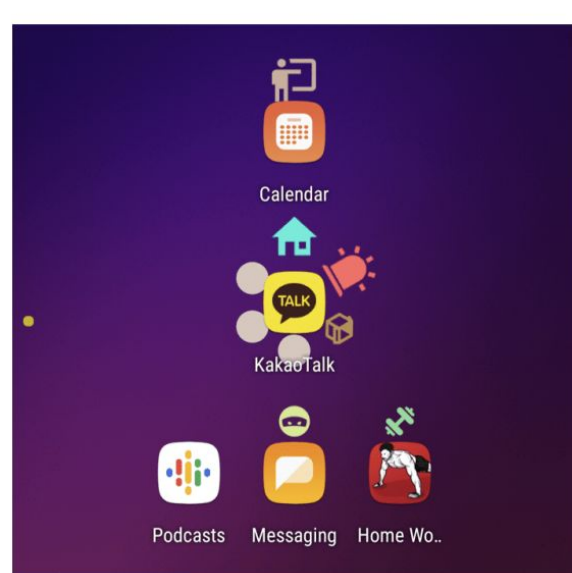
Human-Computer Interaction

A Qualitative Study to Understand the Use of Large-Scale Text-to-Image Models for Visual Artists' Creative Works

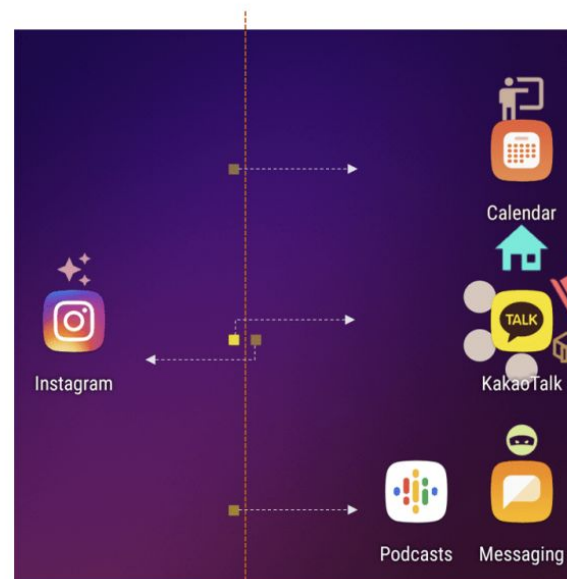
INPUT: *A cat watching a CRT monitor that displays a histogram*



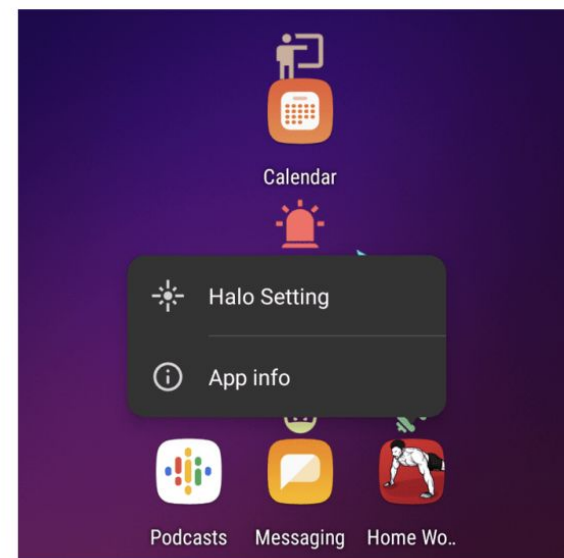
A Customizable Notification Visualization System for Personalized and Longitudinal Interactions



(a)



(b)



(c)



(d)



(e)

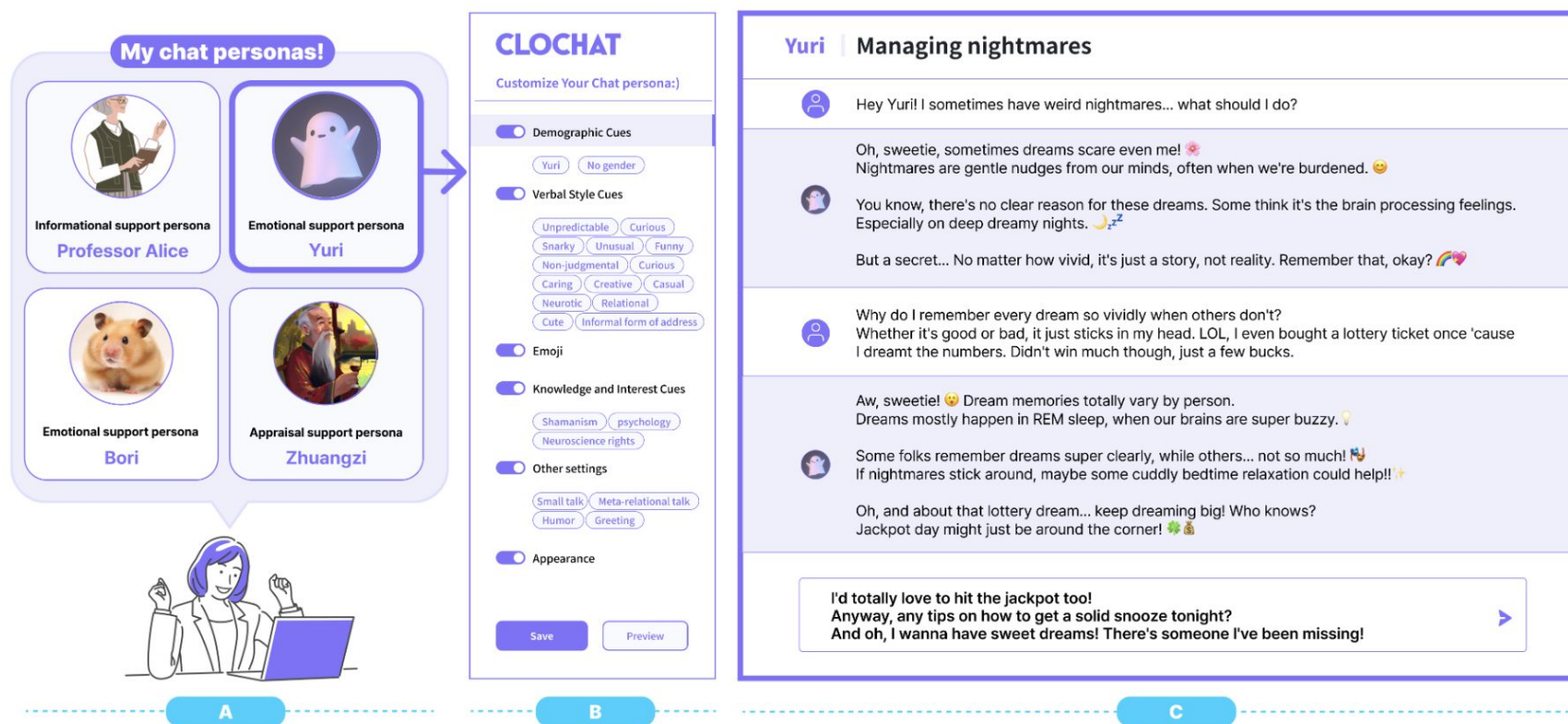


(f)



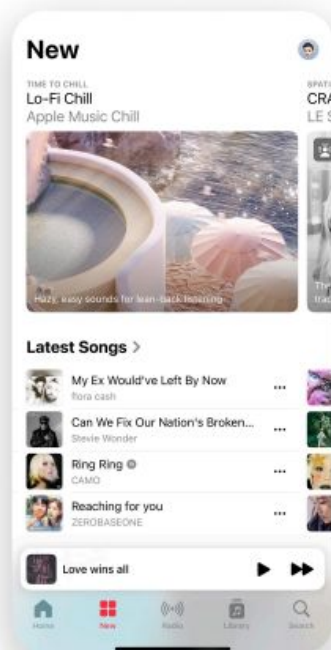
(g)

Understanding How People Customize, Interact, and Experience Personas in Large Language Models



Research Inspirational User Interfaces (ACM CHI 2025)

Leveraging multimodal LLMs to extract UI semantics for a semantic-based search system



Mobile UI Screen

MLLM

Application

App Category
App Description
Similar App
Target User

Screen

Screen Category
Screen Role
Next Screen
Previous Screen

Composition

Elements
Action Items
Layout

Visual Design

Color Scheme
Color Palette
Mood

Extract UI Semantics
using Multimodal LLM

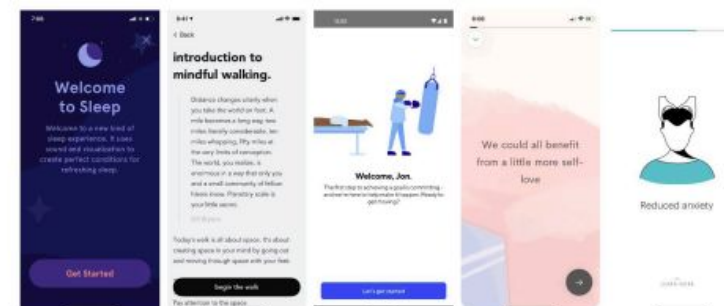
S&UI

App Category
Health / Fitness

Screen Role
Welcome Page

Mood
Calming

SEARCH BY SEMANTICS

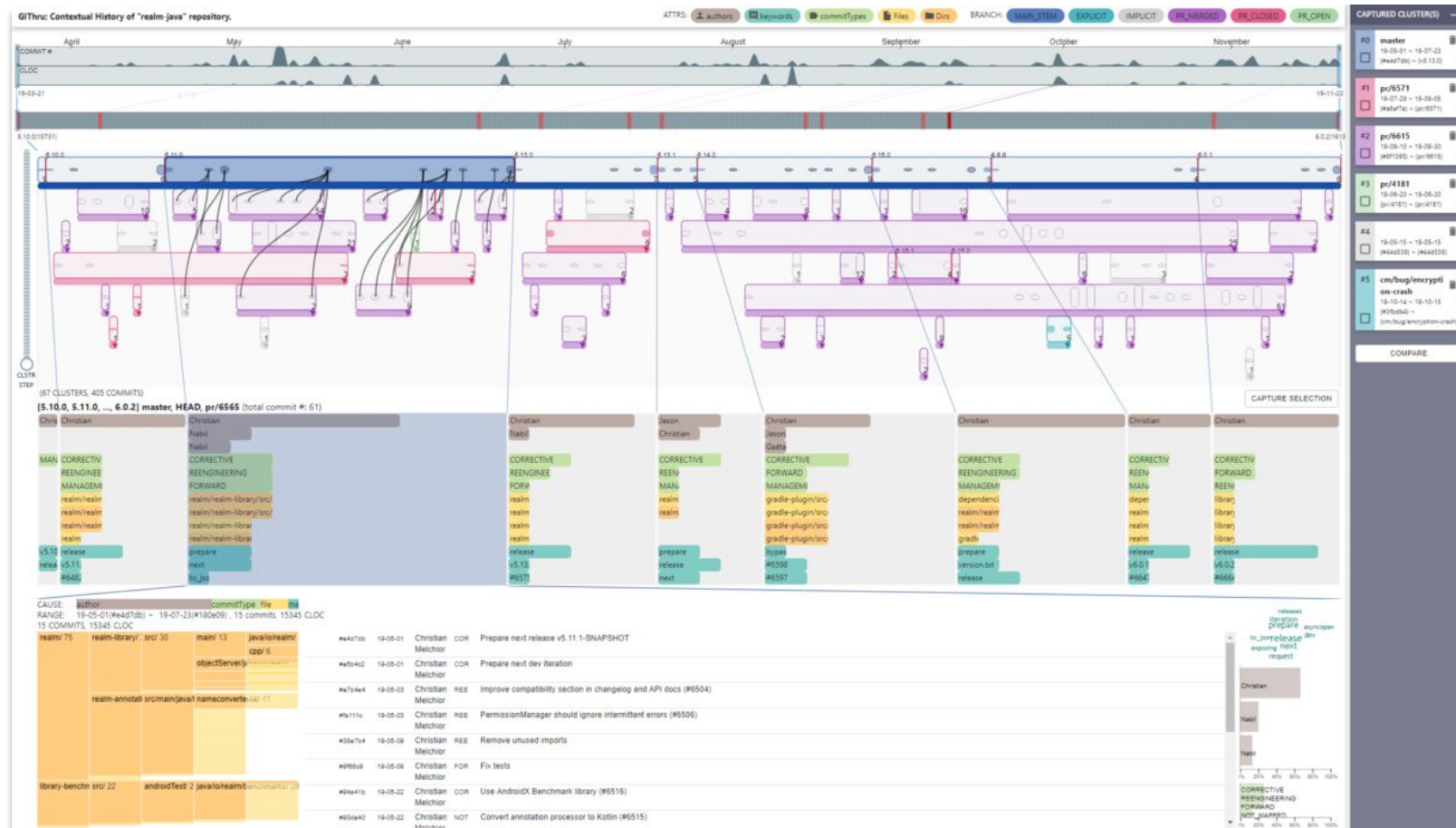


Inspirational Semantic-based UI Search

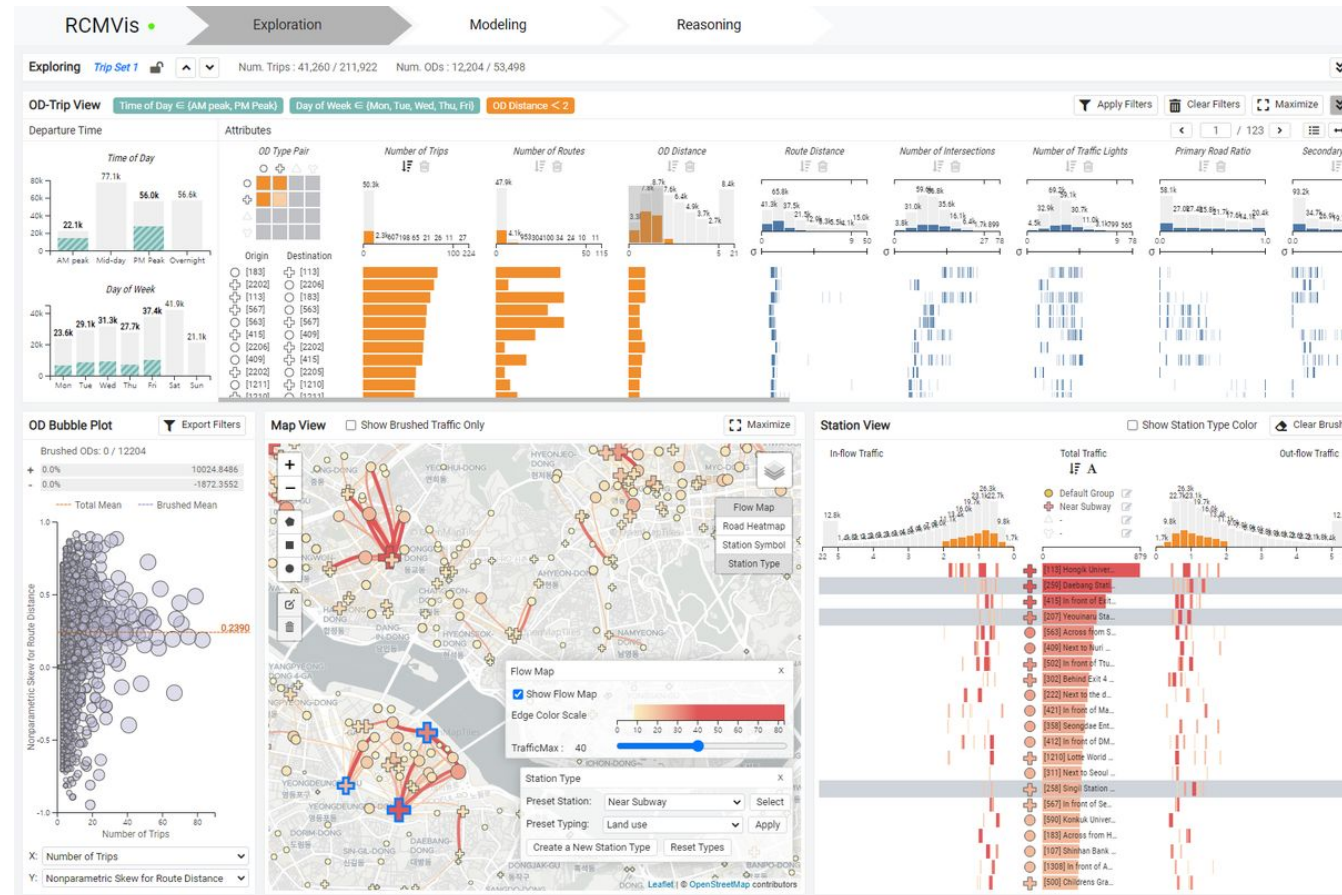
Visual Analytics & Information Visualization

Research Githru (IEEE VIS 2020)

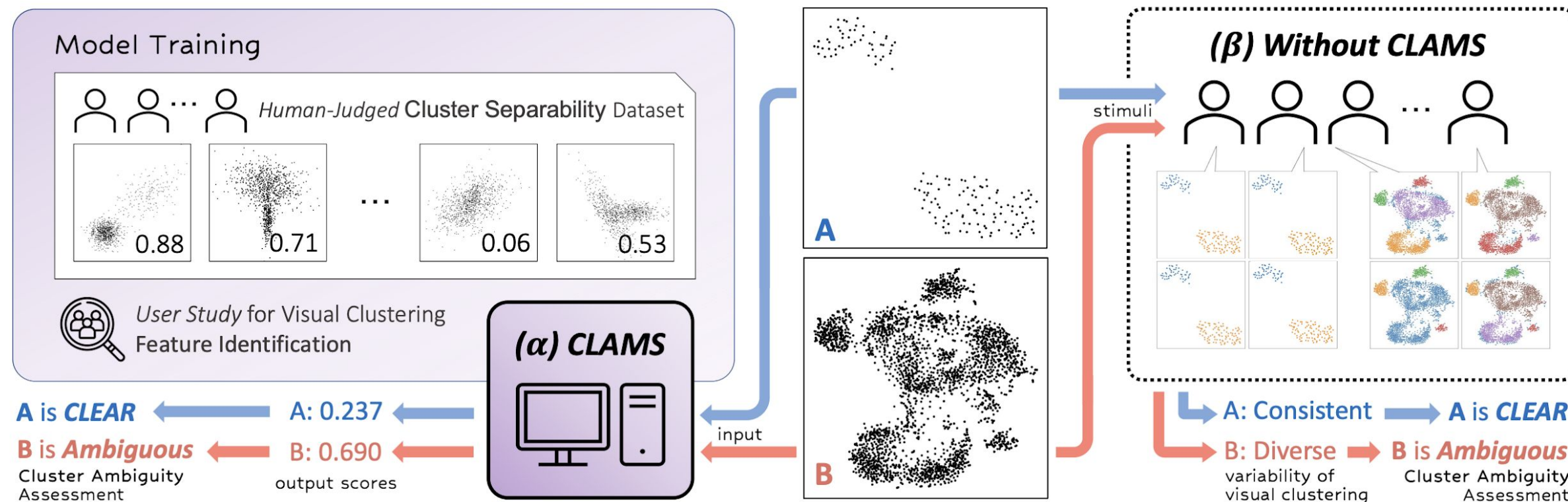
Visual Analytics for Understanding Software Development History Through Git Metadata Analysis



A Visual Analytics System for Route Choice Modeling



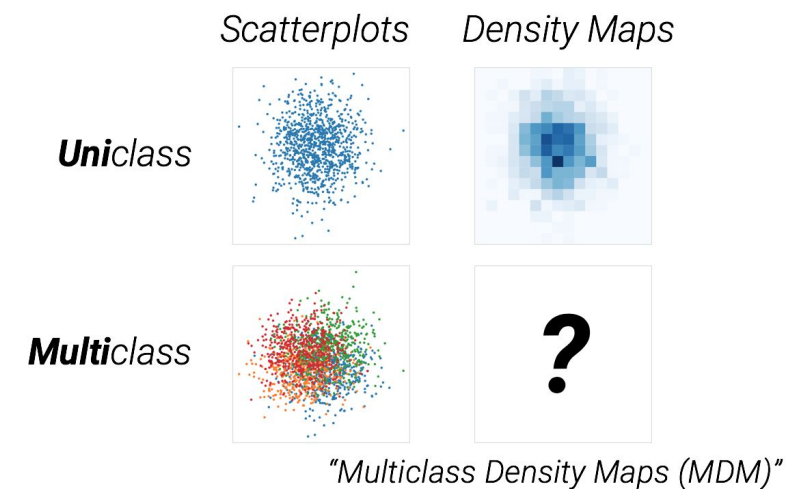
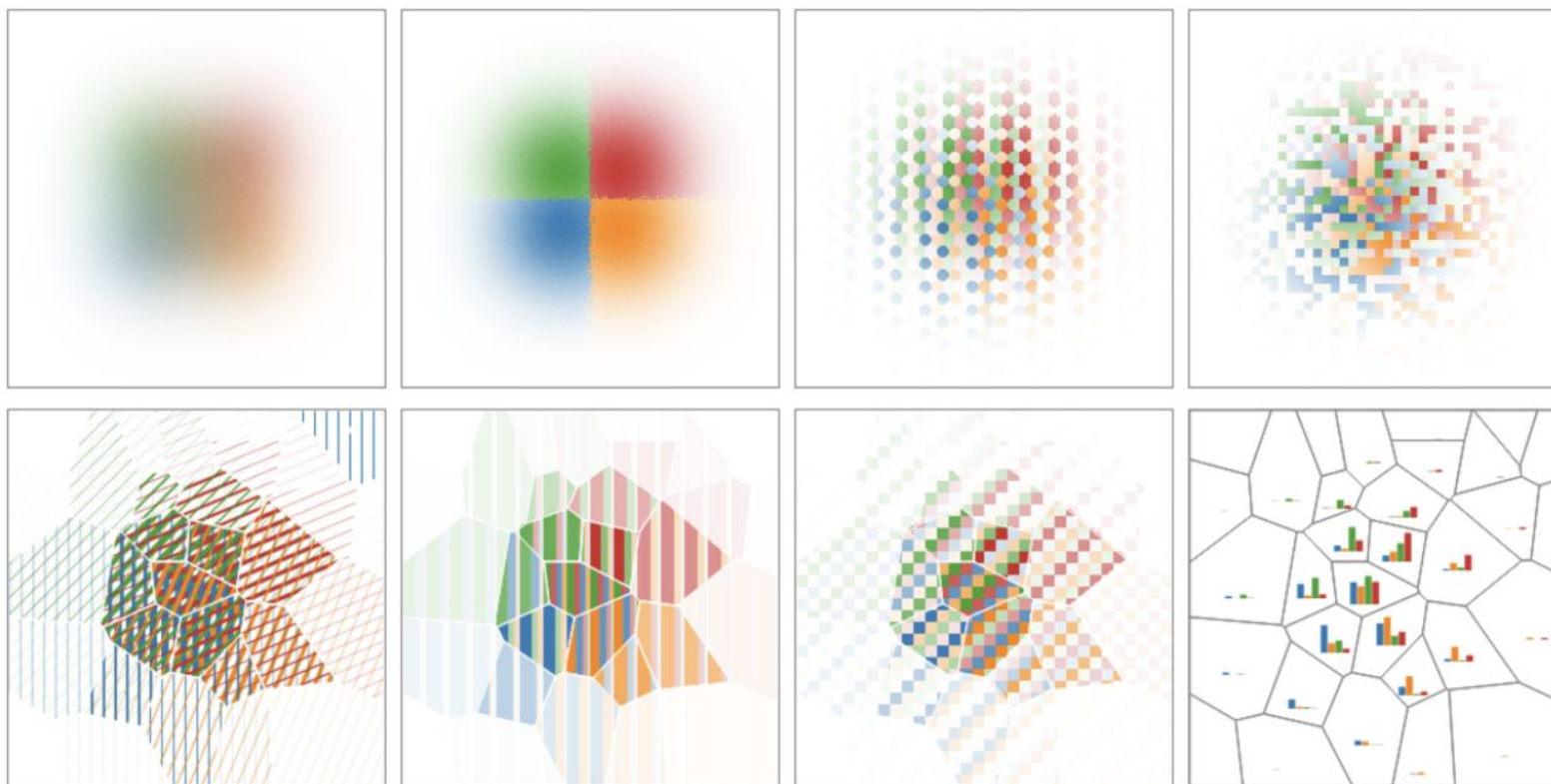
A Cluster Ambiguity Measure for Estimating Perceptual Variability in Visual Clustering



Research

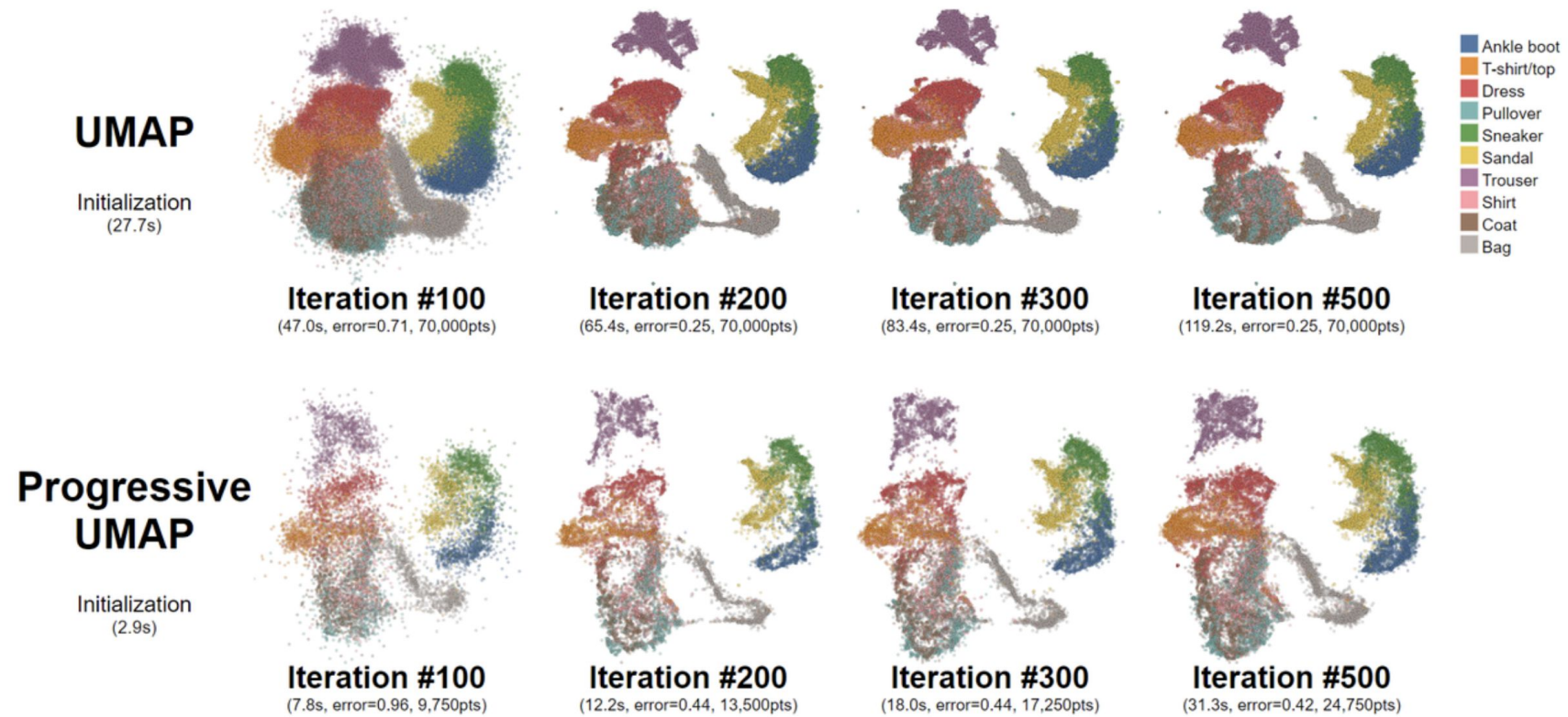
Multiclass Density Map (IEEE VIS 2018)

A Declarative Rendering Model for Multiclass Density Maps

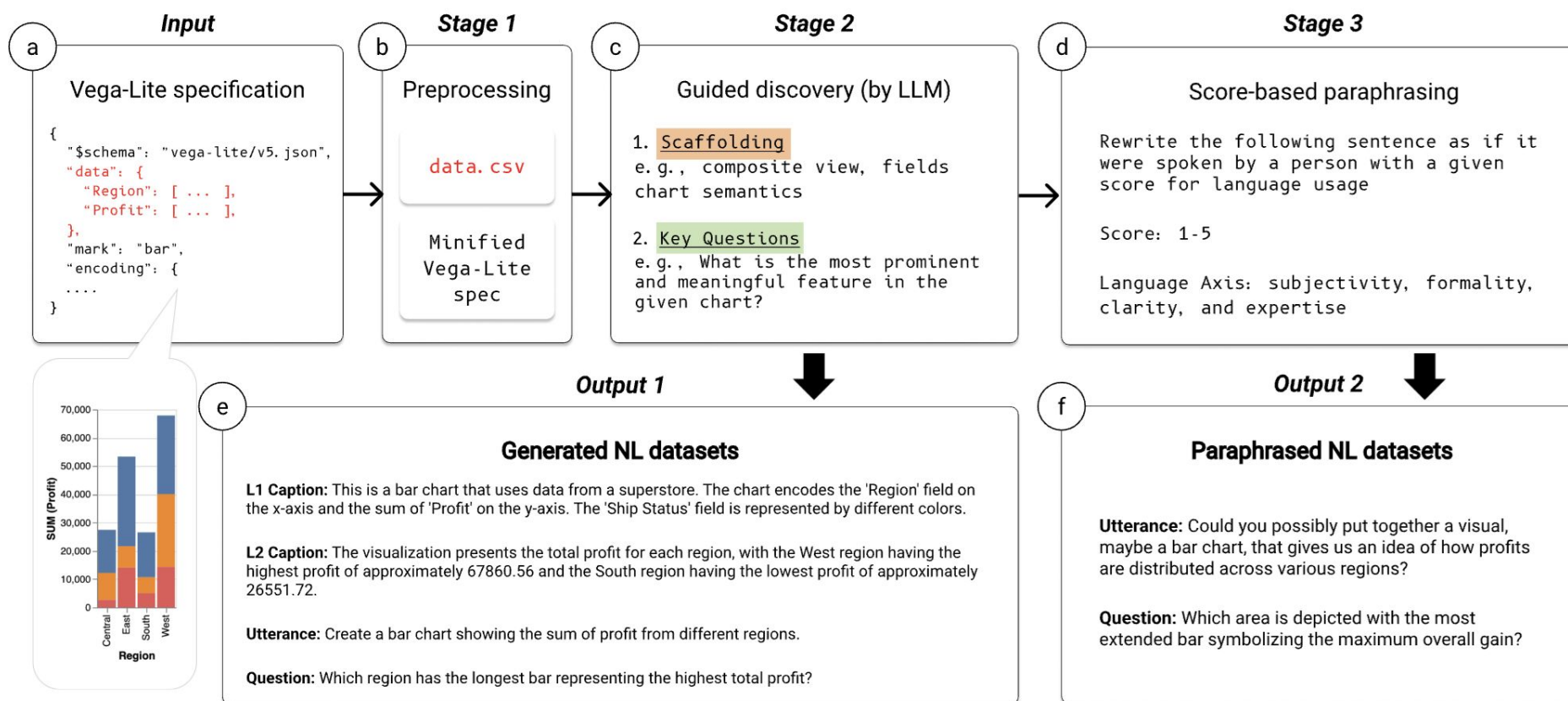


Progressive UMAP (EuroVis 2020)

Progressive Uniform Manifold Approximation and Projection

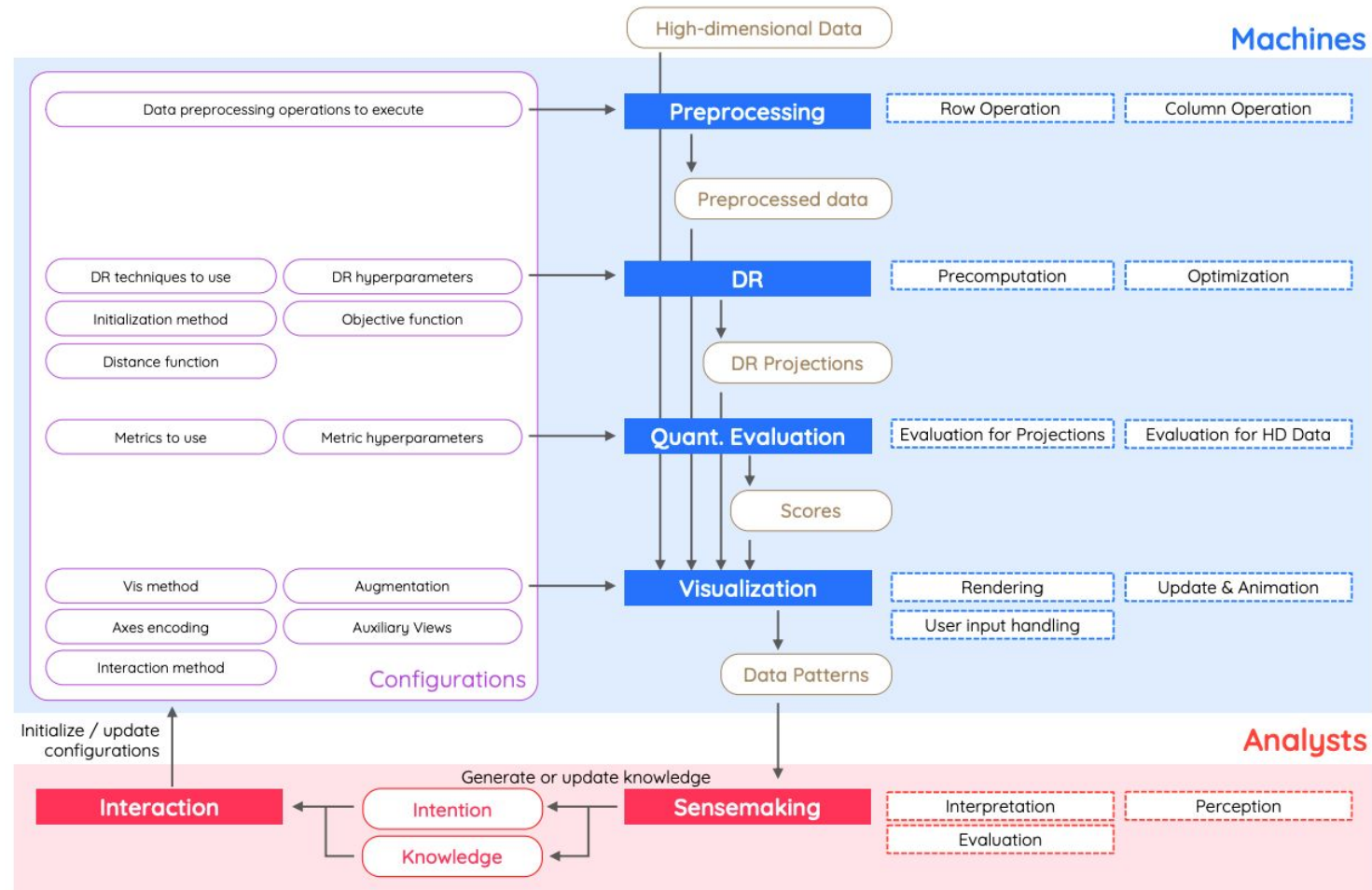


Natural Language Dataset Generation Framework for Visualizations Powered by Large Language Models



Reliable Dimensionality Reduction (ACM CHI 2025)

Workflow model and taxonomy to address key issues in visual analytics with dimensionality reduction

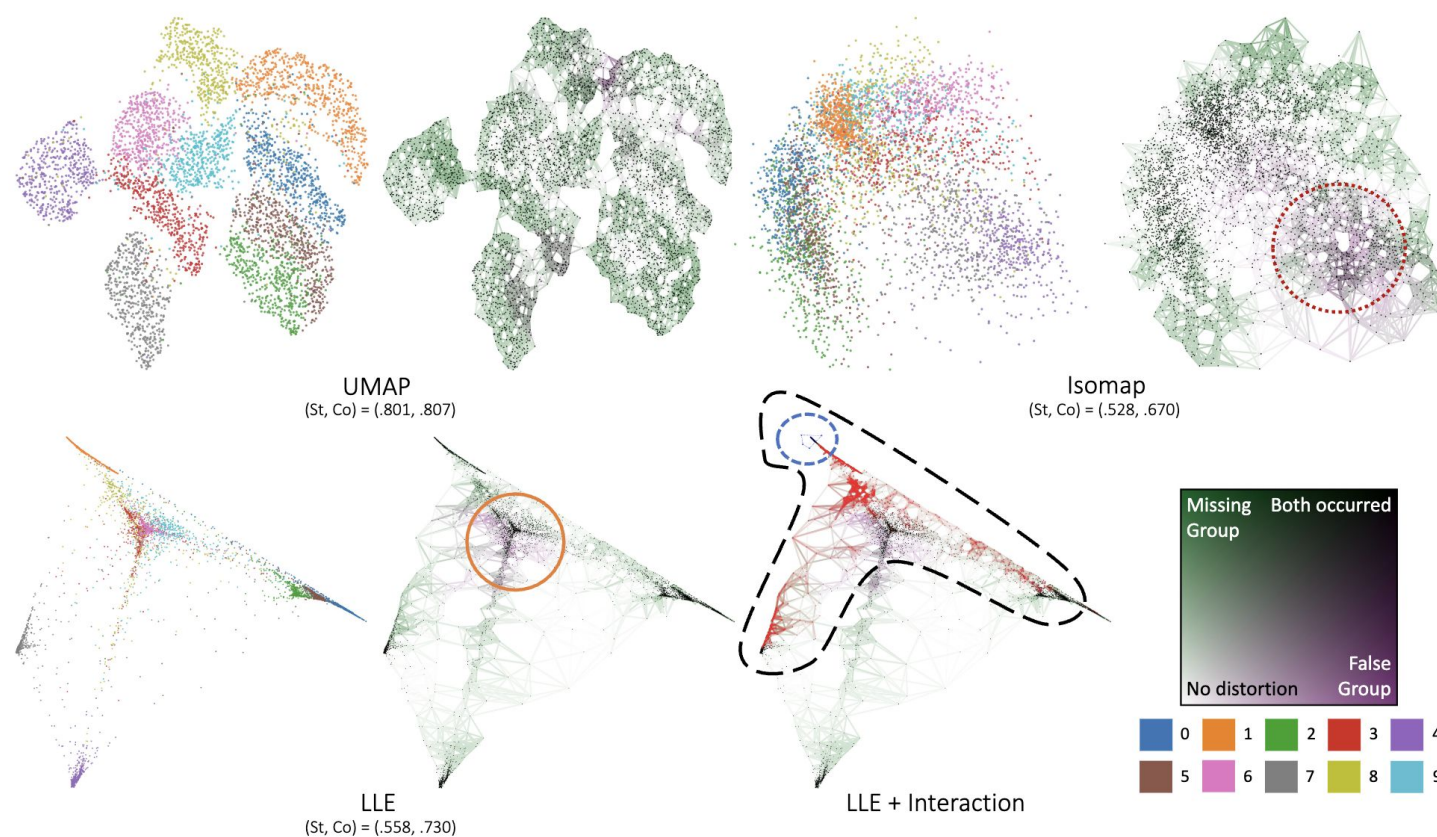


Explainable AI (XAI)

Research

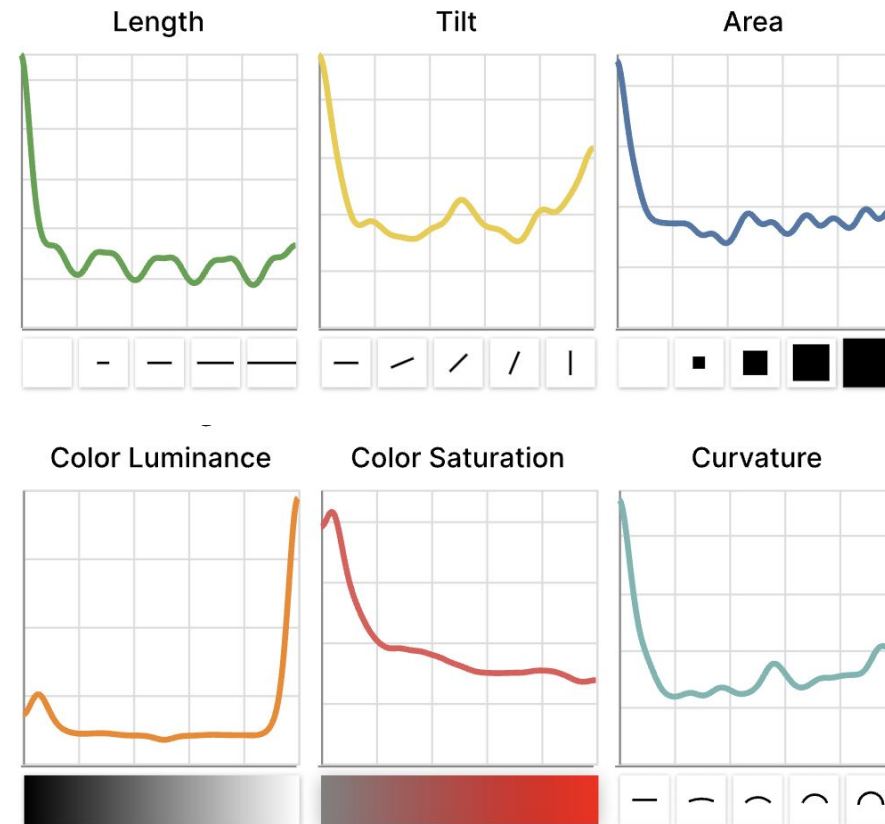
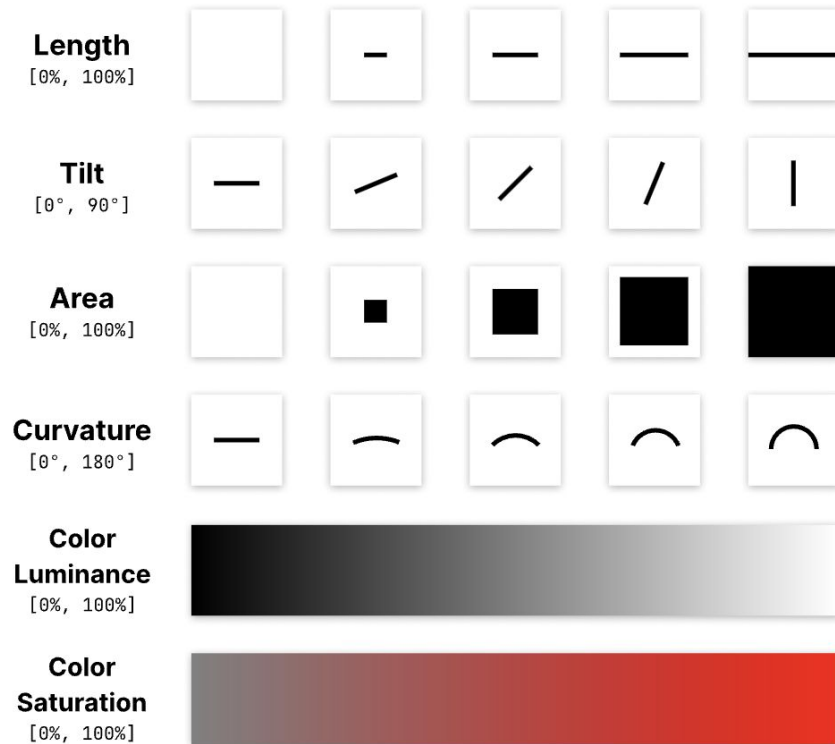
Steadiness & Cohesiveness (IEEE VIS 2021)

Measuring and Explaining the Inter-Cluster Reliability of Multidimensional Projections



Graphical Perception of CLIP (IEEE VIS 2024)

Assessing Graphical Perception of Image Embedding Models using Channel Effectiveness





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