

Selected Publications

d'Auriol, Esenbaeva, Nursultanova, Ualibekova and Sthiannopkao (2023)

Humanity Influenced Visualization Design for Aerial Sensor-based Visualization of Environmental Factors, Proc. of the alt.VIS workshop at IEEE VIS 2023, Melbourne, Australia, Oct. 23, 2023

d'Auriol (2020) Open Our Visualization Eyes, Individualization: On Albrecht Dürer's 1515 Wood Cut Celestial Charts, Information Visualization, April 2020, pp. 137-162. (SCIE)

d'Auriol (2017) High Band-width Flexible Interconnections in the All-Optical Linear Array with a Re-configurable Pipelined Bus System (OLARPBS) Optical Conduit Parallel Computing Model, J Supercomput, 73(2) Feb., pp. 900-922. (SCI)

d'Auriol (2016) Engineering Insightful Visualizations, J Visual Lang Comput, 37 Dec., pp. 12-28. (SCI)

Facilities

- **Equipment:** two quadcopter drones with camera/video, one Unitree high resolution LiDAR, two Lightware micro-LiDARs, one Raspberry Pi 4, one Nova Fitness PM2.5 air quality sensor, one Bambu multicolor 3D printer, one camera with spotlight and remote wireless, various notebooks, monitors and other lab-related assets.
- Office space to support three to four students.

Brian J. d'Auriol, Ph.D.
School of Electrical Engineering and Computer Science,
Gwangju Institute of Science and Technology (GIST),
Cheomdangwagi-ro 123, Buk-gu, Gwangju, Korea, 61005

Recipient Name

Address

City, ST ZIP Code

Visual Enabled Computing

Visual Enabled Computing – V.E. Computing – aims at being a world-class research and development group that investigates all aspects related to visualization by considering future-oriented convergence solutions aimed at time, resource and mission critical tasks.



Director: Brian J. d'Auriol, Ph.D.

<http://www.bdauriol.net>
dauriol@acm.org

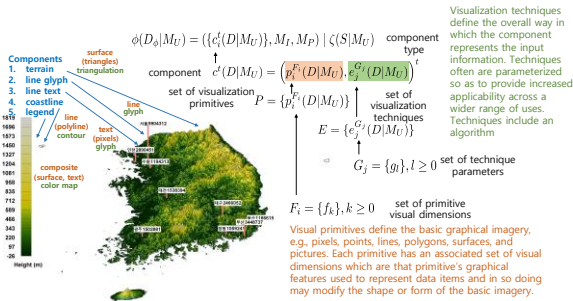
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Research and Development

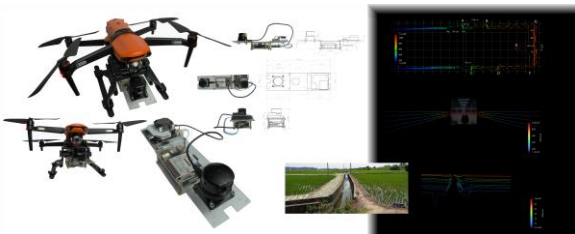
Visualization Individualism: Engineering Insightful Serviceable Visualizations (EISV) Model

A morphosemantic, component-based, descriptive model for effective, individualized, visualization design. Components comprise textual and graphical representations of data.



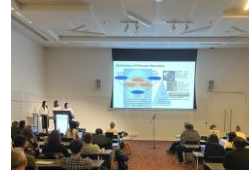
Aerial Sensor-based Visualization (ASV)*

Visualizations of air and water quality data are embedded into constructed 3-D scenes obtained by combining LiDAR and camera/video sources; all acquired from a drone-mounted system. Enables complex relationship visualization between data and the mise-en-scène.



Activity Highlights

Exhibitions: International Military Science and Technology Fair, COEX, Seoul, Korea (2016-17)



Academic conference workshop publication and presentation, Melbourne, Australia, Oct. 23, 2023.

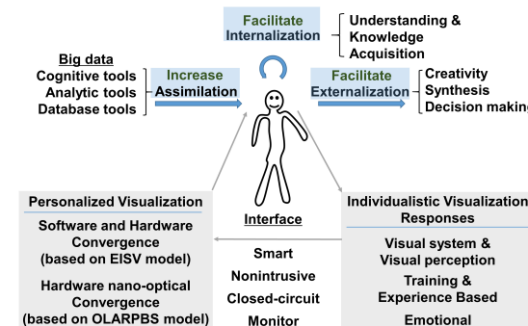
Course Instruction

- Fundamentals of Visualization (school, academic, research versions). Last offered as EC4218-01, GIST, fall, 2023.
- Visual Thinking Patterns with Application to AI: (academic, research versions). Not currently offered.

Personal Visualization Assistant

(PVA) Individualistic and personalized visualization approach takes into account individualistic visual factors to deliver personalized visual information in time, resource and mission critical activities.

Personal Visualization Assistant



OLARPBS Visualization Compute Engine

The OLARPBS is a high-speed, high-bandwidth, all-optical, massively parallel computer architecture designed to meet the needs of future time, resource, and mission critical activities in a high-speed and high-density visual information acquisition environment. Its exa-to-zetta bps total bandwidth, giga bit optical register storage capacity, flexible reconfigurable interconnect and convergence technologies makes it an ideal architecture to invest in.



Contact

Brian J. d'Auriol, Ph.D.
Director: V.E. Computing

School of Electrical Engineering and Computer Science,
Gwangju Institute of Science and Technology (GIST),
Gwangju, Korea

<http://www.bdauriol.net>
dauriol@acm.org

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