



## POSTDOCTORAL RESEARCH FELLOW VISUAL ANALYTICS LAB

### POSITION SUMMARY:

The combination of skills in data analysis, visualization, GIS applications and urban analytics and planning is highly marketable in both industry and academia. This Postdoctoral position is an excellent stepping stone to a career in either the public or private sector as cities adopt smart city strategies. The candidate will work within a dynamic lab with a proven track record of outstanding achievements and contributions in visual analytics research, as part of the iCity project to bring research findings to real-world applications.

This position's primary focus in the lab will be to lead visualization development and applications in partnership with OCAD University and University of Toronto researchers and partners in GIS and urban analytics software companies such as ESRI and IBM, open source software and application users in traffic, transit and relevant urban planning. We are working with a large corpus of urban data to convert it into interactive and practical visualizations to create use cases in area planning, complete streets, parking and traffic management.

The Postdoctoral Fellow (PDF) will be expected to lead software development, visualizations, engage in critical dialogue about urban analytics taxonomies, theory and applications. They will be responsible for managing the final period of the project. Their management duties will include creating and managing an overall work-flow for the project, delegating tasks to student research assistants, supervising student work, and documenting the project's development through periodic reports. They will ensure that the laboratory undertakes regular research review and dissemination of research findings through academic conferences, industry presentations, and peer-reviewed publications, working in close collaboration with the Principal Investigator. In their software development duties, they will be expected to collaborate with software leaders for Betaville, ESRI products and other commercial applications. .

The PDF will provide the Visual Analytics Lab with abilities in 3D software development and visualization, while at the same time, the PDF will benefit from the unique experience of being immersed within an art and design university. Student researchers bring strong design skills and require supervision to amplify existing and new programming knowledge and apply skills to urban visualization and analytics. The successful candidate for this position will have a leadership role in this project in collaboration with the Principal Investigator (Dr. Sara Diamond).

The Postdoctoral Fellow will play a leadership role in the Visual Analytics Lab, reporting directly to Dr. Sara Diamond (University President and Director of the Visual Analytics Lab).

### SUMMARY OF RESPONSIBILITIES:

- Lead the development of data analytics and visualization software that will be applied in use cases within the iCity project.
- Provide knowledge of 3D, time-based and GIS software systems.
- Develop new methods for analyzing, interpreting, and compiling data
- Engage as PDF project lead for OCAD University within the iCity research project.
- Conduct literature reviews and keep abreast of newest developments in the field
- Manage and supervise graduate and undergraduate research assistants
- Present results at academic conferences and industry meetings, prepare and publish peer-reviewed articles, and participate in the preparation of grant application packages
- Work with the Lab Manager and other personnel

### QUALIFICATIONS:

- PhD degree in computer science (graduated with a PhD on or after June, 2014 or will graduate with PhD by December, 2017). Exceptions will be considered.

- Experience with data analytics (using python and other open source tools)
- Experience with GIS software systems
- Data visualization skills
- Understanding of design thinking principles
- Proven ability to multi-task in a deadline oriented environment with minimal supervision
- Effective oral and written communication, analytical, and interpersonal skills
- Excellent organizational skills and the ability to learn new skills quickly
- Demonstrated ability to work independently and participate collaboratively in a team environment
- Accuracy and attention to detail

**SUPERVISION:**

- Works independently under direction of PI, Dr. Sara Diamond  
Work directly with industry partners such as ESRI and IBM  
Opportunities to work collaboratively on other Visual Analytics Lab research projects and with other researchers at OCAD University

**ABOUT THE VISUAL ANALYTICS LAB (VAL):**

The Visual Analytics Lab (VAL) at OCAD U is focused on innovation and training in information, and scientific visualizations and visual analytics. Driven by the increasing complexity of data sets and the need for visualization of both data and information the VAL's team of researchers, designers, artists, cultural theorists, graphics specialists and software developers, invent new visual metaphors, create analysis algorithms, deliver prototypes and research outcomes that strive to make complex data meaningful by skilful visual designs, compelling interaction, sound analytic methods, and solid engineering. The VAL collaborates with local experts, international and industry partners with projects that span urban and transportation issues, financial and health care services, publishing, social media and the entertainment sector.

VAL's research and development activities focus on four main areas:

- *Visual Design:* Developing new ways to tell stories with data through unique visual representations is the key research focus of the lab. Depiction of complex patterns and relationships through appealing visuals enables better information delivery.
- *Analytic Methods:* VAL's researchers' designs software and methods that guide users in exploring and gaining valuable information from visual representations. By these visualizations, users can create and test hypotheses, communicate results, and challenge assumptions.
- *Natural User Interactions:* At VAL, the team explores emerging multimodal techniques and hardware for developing natural interfaces that brings users closer to their data than ever before. The team creates new interactive visual environments for the web, mobile devices, and desktop applications.
- *User Experience:* The ultimate goal of VAL is to help people work with information. The user-centered design approach used in the lab includes collaborating closely with users to understand their problems, test solutions, and deliver usable and useful software products.

For more information, please visit <https://www2.ocadu.ca/research/val/home> or contact Dr. Sara Diamond ([sdiamond@ocadu.ca](mailto:sdiamond@ocadu.ca)) or Marcus Gordon ([mgordon@faculty.ocadu.ca](mailto:mgordon@faculty.ocadu.ca))

**COMPENSATION:** \$55,000 per annum, plus benefits.

**HOURS OF WORK:** Full-time; Grant funded, Monday to Friday for a total of 35 hours per week. The expected duration of this contract is 17 months, beginning February, 2018; or when post is filled.

**APPLICATION DEADLINE:** Immediate (review of applications will commence on receipt.) Applicants should provide a one page covering letter indicating their research interests and highlighting their strengths, an academic C.V. and three references.

*As an institution committed to art, design, digital media and related scholarship, OCAD University recognizes the profound and essential value that diversity brings to the creation, reception and circulation of creative practices and*

discourse. OCAD University understands that valuing diverse creative practices and forms of knowledge are essential to, and enrich the institution's core mission and vision as an art and design university with a local and global scope.

As an employer committed to employment equity, we encourage applications from members of equity-seeking communities including women, racialized and Indigenous persons, persons with disabilities, and persons of all sexual orientations and gender identities/expressions. **We encourage members of equity-seeking groups to self-identify within their letter of intent in their application.**

OCAD University is committed to providing an inclusive and barrier free experience to applicants with accessibility needs. Requests for accommodation can be made at any stage during the recruitment process. Please [contact](#) Human Resources for more information or refer to [OCAD U's Policy of Accommodation in Employment for Persons with Disabilities](#)