Ilya Boyandin

Visualization researcher and web developer

ilyabo@gmail.com
+41 76 728 1941
www.boyandi.net

EDUCATION

MSc Computer Science, St. Petersburg State University, Russia, 2003
Thesis title: Statistical Query Transformations for Question Answering in the Web
Summary: Developed an improvement for a state-of-the-art algorithm transforming natural language questions into search engine queries achieving a better quality of question answering.

EXPERIENCE

PhD student, assistant, University of Fribourg, Switzerland – *since April 2009*
- Working on a thesis on visualization of temporal changes in origin-destination data (e.g. migrations).
- Developing web-based visualizations of AidData (in progress).
- Developed Flowstrates, a novel approach for visualizing and exploring temporal origin-destination data.
- Carried out a qualitative user study comparing animated and small-multiple representations of changes in flow maps.
- Developed JFlowMap, an experimental tool for the visualization of spatial interactions.
- Contributed to the BirdEye visualization library developed at the UN Centre for Advanced Visual Analytics.
- Assisting in courses on Web technologies and Functional programming. Tutoring, giving occasional lectures, preparing materials, building supporting websites and utilities.
- Technical maintenance of the DIVA research group website.
- Helping to organize and tutoring in workshops on programming and computer graphics for students and school children.

Senior Software Engineer, Technical team leader, IT department, University of Applied Sciences FH Joanneum, Graz, Austria – *March 2007 - April 2009*
- Maintained and developed web applications used by the students, lecturers and employees of the university for the online administration.
- Maintained the web and database server infrastructure for the online administration.
- Designed and developed a web application for collaborative data collection and consolidation which provided a statistical overview of study- and research-relevant indicators.

Software Engineer/Research Assistant, Dept of Information Design, University of Applied Sciences FH Joanneum, Graz, Austria – *September 2005 - March 2007*
- Designed and developed CGVis, a visualization tool facilitating hierarchical clustering, zooming and animation for the exploration of multidimensional datasets.
- Designed and developed a standalone and a web version of a proteomic data classification tool implementing a cancer diagnosis method based on mass-spectrometry data facilitating

multi-step feature reduction and SVM classification. The tool achieves 99% classification accuracy on the NCI Cancer SELDI-TOF study dataset.
- Participated in the development of a [presentation management tool](#) for the information screens installed at the university. Developed the visual layout editor allowing to arrange multimedia objects on the screen and the schedule editor similar to calendar in Outlook.
- Improved the implementation of an algorithm detecting the behavior type of a user looking at a web page based on the real-time eye-tracking data.

Software Engineer, Ecofinance Finanzsoftware & Consulting GmbH, Graz, Austria – *June 2004 - August 2005*
- Participated in the development of a web based treasury system for Deutsche Bahn and Commerzbank.
- Implemented the Java infrastructure and XSLT stylesheets for the runtime generation of the front end UI code from XML sources.
- Evaluated and optimized the performance of the XSL transformations.
- Implemented support for long running jobs on the server-side of the system.
- Developed the context-sensitive help for the system and the help authoring infrastructure based on DocBook.

Software Engineer, Elbrus MCST (by contract with Sun Microsystems), St. Petersburg, Russia – *August 2003 - May 2004*
- Worked in the Sun's Java Swing UI library maintenance team. Was responsible for fixing bugs and implementing requests for enhancements in the button classes (JButton, JRadioButton, JCheckBox, etc). Fixed a total of about 50 bugs in the Sun JDK.

Software Engineer, Aloha, St. Petersburg, Russia – *January 2001 - July 2003 (during studies)*
- Designed and developed an e-commerce system with order tracking, credit card processing, back-office, inventory, statistical reports, etc. Developed the whole system from scratch, supported and customized it constantly adapting it to the changing needs of the employer. The system is still in use on several e-commerce websites.

Web Developer, ALife, St. Petersburg, Russia – *March 2000 - January 2001 (during studies)*
- Participated in the development of a system of intelligent agents capable of chatting to visitors of a website in a natural language and promoting its products. Implemented a highly dynamic web-interface for the subsystem that controlled the chats and let operators intervene in a chat if a bot was in trouble.

Teacher, Anichkov Lyceum, St. Petersburg, Russia – *September 1998 - April 2000 (during studies)*
- Taught school children programming.

Computer Skills

Languages #1: JavaScript, Java, CoffeeScript, PHP
Languages #2: Clojure, Scala, ActionScript, Perl, Python, C
Web: Node.js, jQuery, Spring, Wicket, Flex, HTML, SVG, XSLT
Visualization: D3, Tableau, Prefuse

GIS: Polymaps, OpenStreetMap, Google Maps API, QGIS, OpenJUMP, GeoTools, JTS
Databases: MySQL, PostgreSQL, MongoDB, SQL Server

PUBLICATIONS

A Qualitative Study on the Exploration of Temporal Changes in Flow Maps with Animation and Small-Multiples, Ilya Boyandin, Enrico Bertini, Denis Lalanne.
Computer Graphics Forum, International Journal of the Eurographics Association,
Eurographics/IEEE-VGTC Symposium on Visualization, Vienna, Austria, June 2012.

Flowstrates: An Approach for Visual Exploration of Temporal Origin-Destination Data., Ilya Boyandin,
Enrico Bertini, Peter Bak, Denis Lalanne.
Computer Graphics Forum, International Journal of the Eurographics Association,
Eurographics/IEEE-VGTC Symposium on Visualization, Bergen, Norway, June 2011.

Using Flow Maps to Explore Migrations Over Time, Ilya Boyandin, Enrico Bertini, Denis Lalanne.
Workshop in Geospatial Visual Analytics: Focus on Time, GeoVA(t), Guimarães, Portugal, May 2010.

Statistical Query Transformations for Question Answering in the Web (in Russian), slides (in English), Ilya
Boyandin, Igor Nekrestyanov.
Fifth Russian Conference on Digital Libraries (RCDL'2003), St. Petersburg, Russia, October 2003.

OTHER ACTIVITIES

- Developed a visualization of SBB train flows in a team of several developers at the Make Opendata Camp in Zurich.
- Maintained the website of the Russian Information Retrieval Evaluation Seminar with the use of a self-made Java XSLT-engine.
- Developed phpObjectForms, an open-source library for building user-friendly web forms.
- Presented at visualization conferences: VisWeek, EuroVis, AGILE.
- Participated in developer conferences: JavaPolis, Devoxx, Scala Days.

SPOKEN LANGUAGES

- Russian (mother tongue)
- English (fluent)
- German (fluent)
- French (intermediate)

LEGAL

Residence permit for Switzerland: type B

HOBBIES

Music composing, photography, hiking, traveling.