Lukas Tencer

Curriculum Vitae

*Determine never to be idle. No person will have
occasion to complain of the want of time who
never loses any. It is wonderful how much may
be done if we are always doing.*
- Thomas Jefferson -

My Mission Statement

I have a deep passion for Machine Learning and Data Science and I am eager to expand my knowledge in these areas even further. I have implemented many Machine Learning algorithms and deployed several Machine Learning systems which were used by millions of users. I love to explore the stories hidden in the data and be able to tell the future using my prediction models. Whatever it is using predictive models, descriptive or inferential statistics, I am looking forward to finding solutions for problems in Data Science, Machine Learning, Computer Vision or Pattern Recognition. Every new dataset is for me like a tangled ball of string which waits to be untangled.

Experience

2011–now **Researcher in Machine Learning and Computer Vision**, *Synchromedia*, Montreal, Canada.

- Implementing techniques of machine learning & pattern recognition & computer vision
- Exploring the state of the art to keep up with current research trend
- Publishing on international conferences and journals (Elsevier, IEEE)
- Programming in Matlab, Python, Java, JS+HTML5+PHP

2013–(3 mo.) **Machine Learning intern**, *imo.im*, Palo Alto, California, USA.

- Development of machine learning systems for image classification and text classification
- Textual and image feature extraction
- Data cleaning and preprocessing
- Deployment of machine learning system to live infrastructure

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- Worked with Georges Harik, Google employee no. 7, author of AdWords

2011–2012 **Software Engineer in Augmented Reality**, *VIS GRAVIS*, Bratislava, Slovakia.
- Research and development in the area of multi-touch displays in combination with augmented reality
- Analysis of market solutions for augmented reality in urban planning

2010–2011 **Software Engineer in Web Platforms**, *IBM*, Dublin, Ireland.
- DOJO based component development on IBM Domino platform
- JAVA development on REST based platform (IBM Connections)
- Development of UI component for the mobile version of Xpages technology

2006–2008 **Software Quality Engineer in Networking Software**, *Whitestein*, Bratislava, Slovakia.
- Network traffic analysis
- Composition of test cases and their execution, black box / white box testing

Education

2011–2015 **PhD. of Computer Science**, *Université du Québec - Ecole de Technologie supérieure*, Montreal, Canada.
Main focus on Machine Learning and Computer Vision. Organizing Machine Learning seminar and Algorithms seminar, actively participating in Data Science seminar. Thesis on semi-supervised machine learning techniques.

2009 **RNDr. of Computer Graphics and Geometry**, *Comenius University*, Bratislava, Slovakia.
This is an extension of master thesis awarded for writing thesis on object tracking and passing exams from subjects in computer graphics and computational geometry.

2007–2009 **Master of Computer Graphics and Geometry**, *Comenius University*, Bratislava, Slovakia.
Top 1% of the class. My Studies focused on computation geometry and computer graphics with emphasis on implementation of computer graphics algorithms. Thesis on HID using computer vision techniques and 3D interfaces, results published on an international conference.

2004–2007 **Bachelor of Computer Science**, *Comenius University*, Bratislava, Slovakia.
Main focus on algorithms and programming. Thesis on User Interfaces in operating systems.

PhD. Thesis

Title *Semi-Supervised Techniques for Classification Tasks*

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Supervisors	prof. Mohamed Cheriet - Canada Research Chair Tier 1, IEEE SM.,
Description	My thesis focused on three different techniques in semi-supervised machine learning. Specifically the Transductive similarity, Universum learning and Summit-training (combination of active learning and semi-supervised learning). Currently with 2 accepted 2 submitted journal papers and 4 published conference papers.

Languages

English	**Full Professional Proficiency**
Slovak	**Native Proficiency**
Czech	**Native Proficiency**
German	**Working Proficiency**
French	**Limited Proficiency**

Skills

Abstract Concepts	I love to learn new concepts and broaden my knowledge in any of the existing topics which I already know. I read papers and books, do online classes, organize and participate in seminars etc.

- Machine Learning
- Data Science
- Pattern Recognition
- Computer Vision
- Information Retrieval
- Data Analysis
- Data Visualization
- Image Processing

Some Models	These are some models which I implemented or used. Usually when I need specific models, I just read the paper / book on it and the use or implement it.

- Semi-Supervised Learning
- Neural Networks
- Fuzzy Models
- Support Vector Machines
- Ensemble Learning
- Generalized Linear Models
- Image Features (SIFT, SURF...)
- Hypothesis Testing

Languages and Technologies	Recently I used mostly Python, Matlab, some R and Java. I learn languages on need basis and I don't have a problem to learn a new language / library very quickly.

- Python
- Matlab
- Java
- C++
- scikit-learn
- OpenCV
- Pandas
- ggplot

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Interests

Higher Causes · I love to educate myself and spread my knowledge when I have free time with: Online Courses (MOOC), Seminars and Meetups, Open Source software

Free-time activities · I like to stimulate myself intellectually and physically to keep my mind and body sharp with: Board games, Badminton, Swimming, Skiing, Martial Arts

Honors, Awards & Activities

Honors & Awards · ETS Graduate Scholarship (2012), Prize of Slovak Cybernetic Society on Slovak Academy of Science (2011), Doctoral student scholarship (2009), Dean's award for doctoral students (2009), Kunii Award (2009), Student scientific conference (2009)

Other Activities · Organizer: Machine Learning Seminar (ETS), Algorithmic Practice Sessions (ETS); Participant: Data Science Montreal (Invited Talk), Big Data Montreal (Regular Attendee)

Publications

[1] Lukas Tencer, Marta Reznakova, and Mohamed Cheriet. TITS-FM: Transductive incremental Takagi-Sugeno fuzzy models. *Applied Soft Computing*, November 2014.

[2] Marta Renakova, Lukas Tencer, and Mohamed Cheriet. ARTIST: ART-2A Driven Generation of Fuzzy Rules for Online Handwritten Gesture Recognition. *Document Analysis and Recognition (ICDAR), 2013 12th International Conference on*, pages 354–358, August 2013.

[3] Lukas Tencer, Marta Reznakova, and Mohamed Cheriet. Sketch-Based Retrieval of Document Illustrations and Regions of Interest. *Document Analysis and Recognition (ICDAR), 2013 12th International Conference on*, pages 728–732, August 2013.

[4] Marta Renakova, Lukas Tencer, and Mohamed Cheriet. Online handwritten gesture recognition based on Takagi-Sugeno fuzzy models. *Information Science, Signal Processing and their Applications (ISSPA), 2012 11th International Conference on*, pages 1247–1252, 2012.

[5] Lukas Tencer, Marta Reznakova, and Mohamed Cheriet. A new framework for online sketch-based image retrieval in web environment. *Information Science, Signal Processing and their Applications (ISSPA), 2012 11th International Conference on*, pages 1430–1431, 2012.

[6] Lukáš Tencer. Tracking of objects with known color signature. In *Elitech Graduate Student Conference*, 2011.

[7] Lukáš Tencer. Human-Computer Interaction with Visualization of Three-Dimensional Medical Data. *RNDr. Thesis*, 2009.

[8] Lukáš Tencer. Interface on Interaction with 3D Medical Data. *Central European Student Conference on Computer Graphics*, 2009.

[9] Lukáš Tencer. Rozhranie pre manipuláciu s medicínskymi dátami. *Master Thesis*, 2009.

[10] Lukáš Tencer. Evolúcia GUI v operačných systémoch. *Bachelor Thesis*, 2007.

(3 journal papers under review)

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