

Jamshidbek Mirzakhlov

NATURAL LANGUAGE PROCESSING | MACHINE LEARNING

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Research Interests

- Multilingual Natural Language Processing (NLP), Low-resource NLP, Neural Machine Translation (NMT), Dialogue Systems

Education

University of South Florida

M.S. IN COMPUTER SCIENCE

Thesis: Turkic Interlingua: A Case Study of Machine Translation in Low-resource Languages

Research Advisors: Dr. Sriram Chellappan and Dr. John Licato

Tampa, Florida

Aug 2020 - Aug 2021

University of South Florida

B.S. IN COMPUTER SCIENCE | HONORS COLLEGE | OVERALL GPA: **3.84**

Research Advisor: Dr. Sriram Chellappan

Tampa, Florida

Aug 2016 - May 2020

Industry Experience

Salesforce

SOFTWARE ENGINEERING INTERN

- Developed, tested and deployed features for Salesforce Blockchain Platform (BCP)
- Explored and analyzed various storage options for GDPR compliant practices at BCP
- Prototyped an OData-based module that integrates the core concepts of blockchain and GDPR compliant storage solutions

San Francisco, CA

May 2020 - Aug 2020

IBM Research

RESEARCH INTERN

- Automated the deployment of AML and time-series prediction models to cloud environment using Docker and Kubernetes
- Prototyped mobile app features in Android Studio for the Financial Services Research team

Yorktown, NY

May 2019 - Aug 2019

Publications & Patents

1. **Mirzakhlov, J.**, Babu, A., Wahab, A., et al (2021). Evaluating Multiway Multilingual NMT in the Turkic Languages. To appear at the Proceedings of Workshop on Machine Translation (WMT) 2021.
2. **Mirzakhlov, J.**, Babu, A., Ataman, D., et al (2021). Large-scale Study of Machine Translation in the Turkic Languages. To appear at the Proceedings of EMNLP 2021.
3. **Mirzakhlov, J.** (2021). Turkic Interlingua: A Case Study of Machine Translation in Low-resource Languages (2021). Master's Thesis.
4. Laverghetta, A., Nighojkar, A., **Mirzakhlov, J.**, and Licato, J. (2021). Can Transformer Language Models Predict Psychometric Properties? Proceedings of *SEM 2021: The Tenth Joint Conference on Lexical and Computational Semantics, Pages 12-25.
5. Caswell, I., Kreutzer, J., Wang, L., ... **Mirzakhlov, J.**, etc (2021). Quality at a Glance: An Audit of Web-Crawled Multilingual Datasets, EACL 2021 AfricaNLP Workshop.
6. Laverghetta, A., **Mirzakhlov, J.**, and Licato, J. (2020). Towards a Task-Agnostic Model of Difficulty Estimation for Supervised Learning Tasks, AACL-IJCNLP 2020 Student Research Workshop (SRW)
7. Minakshi, M., Bharti, P., McClinton, W., **Mirzakhlov, J.**, Carney, Ryan M., and Chellappan, S. (2020). Automating the Surveillance of Mosquito Vectors from Trapped Specimens Using Computer Vision Techniques, ACM COMPASS 2020.
8. Chellappan, S., Bharti, P., Minakshi, M., McClinton, W. and **Mirzakhlov, J.**, University of South Florida, 2020. Leveraging smart-phone cameras and image processing techniques to classify mosquito genus and species. U.S. Patent US20200143202A1.
9. Chellappan, **Mirzakhlov, J.**, and Kariev, Sh., University of South Florida, 2020. Ensuring Integrity of Email Content during Forwarding. USF Ref. No. 19B151
10. **Mirzakhlov, J.**, Babu, A., Andujar, M. (2020). Mudpoint: Evaluating Instructor Perception on a Continuous and Non-Specific Feedback System. In Learning and Collaboration Technologies. HCII 2020. Volume 12205 of the Lecture Notes in Computer Science.

Community Engagement

Turkic Interlingua (TIL)

FOUNDER & COMMUNITY ORGANIZER

International

Sep 2020 - present

- A community of researchers, programmers and linguists with a mission to build language technologies around Turkic languages
- Led a team of 30+ on the creation of public datasets and development NLP models for Machine Translation
- More info about the projects and initiatives can be found <https://turkicinterlingua.org>

Society of Competitive Programmers

CO-FOUNDER & PRESIDENT

Tampa, FL

Jan 2018 - Dec 2019

- Created a student organization that helps to foster hackathon culture at USF and supports students in their hackathon trips
- Reached 350+ active members in 3 semesters and enabled 150+ students experience their first hackathons
- Acquired over \$20k in funding for student travel through industry partnerships

USF Engineering EXPO

VOLUNTEER DIRECTOR & EXHIBITOR

Tampa, FL

April 2018 - Feb 2019

- Worked with a committee of 30 students to collaborate on a two-day event organized for over 10,000 K-12 kids interested in STEM fields
- Lead a team of over 200 student volunteers by distributing tasks, assigning daily goals, scheduling, and event set up/break down

Presentations & Demos

TurkLang 2021,

2021 "Turkic Interlingua: A Corpus for Improving the Applicability of Machine Translation Technology in Turkic Languages" *Virtual*

AAEL-IJCNLP 2020 Student Research Workshop (SRW),

2020 "Towards a Task-Agnostic Model of Difficulty Estimation for Supervised Learning Tasks" *Virtual*

Learning and Collaboration Technologies, HCII 2020,

2020 "Mudpoint: Evaluating Instructor Perception on a Continuous and Non-Specific Feedback System." *Copenhagen, Denmark*

USF Undergraduate Research Colloquium,

2019 "Citizen Epidemiology: Enabling Citizens to Automatically Classify Genus and Species of Mosquitoes from Smartphone Images via Deep Learning" *Tampa, FL*

Orlando-IX,

2018 "USF Neuro-Machine Interaction Brain Drone Racing Simulation Demo" *Orlando, FL*

Skills

Languages Python, Java, C++, JavaScript

Libraries Fairseq, PyTorch, Tensorflow, HuggingFace, Jiant, NLTK, OpenCV, GCP

Tools Android Studio, React Native, Unity, Flask, Tomcat, Kubernetes, Docker, Git, REST

Honors & Activities

2021 **Best Student Paper Award on Computational Psychometrics**, IMPS *Virtual*

2021 **Program Admittee**, 11th Lisbon Machine Learning Summer School *Virtual*

2020 **Category Award**, HackGT 7 at Georgia Institute of Technology *Atlanta, GA*

2020 **Top 50 Inspirational Hackers of 2020**, Major League Hacking *New York, NY*

2019 **Category Award**, HackGT 6 at Georgia Institute of Technology *Atlanta, GA*

2019 **Category Award**, PennApps XX at Univ. of Pennsylvania *Philadelphia, PA*

2019 **2nd Place**, Hackabull 2019 at Univ. of South Florida *Tampa, FL*

2019 **1st Place**, KnightHacks 2019 at Univ. of Central Florida *Orlando, FL*

2019 **Award**, Dean's List of Scholars (x4) *Tampa, FL*

2019 **Scholarship**, USF Chair's Scholarship (\$500) *Tampa, FL*

2019 **Scholarship**, Honors Community Engagement Scholarship (\$600) *Tampa, FL*

2018 **Category Award**, CalHacks 5.0 at UC Berkeley *Berkeley, CA*

2018 **Category Award**, MHacks X at Univ. of Michigan *Ann Arbor, MI*

2016 **Scholarship**, USF Green & Gold Presidential Scholarship (\$48,000) *Tampa, FL*