Jamshidbek **Mirzakhalov**

Natural Language Processing | Machine Learning

813-335-3919 | mirzakhalov@usf.edu | mirzakhalov.me | mirzakhalov

Research Interests

- Neural Machine Translation (NMT) for low-resource languages
- Cross-lingual representation learning
- Automated Curriculum Learning for Natural Language Understanding (NLU) tasks

Education

University of South Florida — *Tampa, Florida*

M.S. in Computer Science — *Aug 2020 - present*

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

University of South Florida — *Tampa, Florida*

B.S. in Computer Science | Honors College | Overall GPA: **3.84** — *Aug 2016 - May 2020*

Research Advisor: Dr. Sriram Chellappan

Publications & Patents

1. **Mirzakhalov, J.**, Babu, A., McClinton, W., Chellappan, S., and Licato, J. (2020). Incorporating BERT Into Massively Multilingual Neural Machine Translation (2020), in review.
2. Laverghetta, A., **Mirzakhalov, J.**, Licato, J. (2020). Curriculum Learning for Abductive Natural Language Inference (2020), in review.
3. Minakshi, M., Bharti, P., McClinton, W., **Mirzakhalov, J.**, Carney, Ryan M., and Chellappan, S. (2020). Automating the Surveillance of Mosquito Vectors from Trapped Specimens Using Computer Vision Techniques. In ACM COMPASS 2020.
4. Chellappan, S., Bharti, P., Minakshi, M., McClinton, W. and **Mirzakhalov, J.**, University of South Florida, 2020. Leveraging smart-phone cameras and image processing techniques to classify mosquito genus and species. U.S. Patent Application 16/673,641.
5. **Mirzakhalov, 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.

Research Experience

Advancing Machine and Human Reasoning Lab (Dr. John Licato) — *Tampa, FL*

Research Assistant — *Jan 2020 - present*

- Explored the effect of deeply incorporated BERT embeddings on the performance of massively multilingual NMT
- Proposed a general curriculum learning framework for abductive Natural Language Inference (NLI) tasks

USF Social Computing Lab (Dr. Sriram Chellappan) — *Tampa, FL*

Research Assistant — *Jan 2018 - present*

- Worked on a team of 3 to develop a deep learning model for mosquito genus and species classification
- Developed a mobile and web platform for a team of social scientists for anonymous and qualitative metadata extraction from user phones

Industry Experience

Salesforce — *San Francisco, CA*

Software Engineering Intern — *May 2020 - Aug 2020*

- 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

IBM Research — *Yorktown, NY*

Research Intern — *May 2019 - Aug 2019*

- Automated the deployment of AML and time-series prediction models to cloud environment using Docker and Kubernetes
- Prototyped a general-purpose framework for service deployment to reduce the cloud migration time for researchers

Presentations & Demos

2020	**Learning and Collaboration Technologies, HCII 2020**, "Mudpoint: Evaluating Instructor Perception on a Continuous and Non-Specific Feedback System."	*Copenhagen, Denmark*
2019	**USF Undergraduate Research Colloquium**, "Citizen Epidemiology: Enabling Citizens to Automatically Classify Genus and Species of Mosquitoes from Smartphone Images via Deep Learning"	*Tampa, FL*
2018	**Orlando-IX**, "USF Neuro-Machine Interaction Brain Drone Racing Simulation Demo"	*Orlando, FL*

Honors & Awards

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*

Community Engagement

Society of Competitive Programmers

Tampa, FL

Co-Founder & President — *Jan 2018 - Dec 2019*

- Student organization that helps to foster hackathon culture at USF and supports students in their hackathon trips around the nation
- Helped USF improve in annual Major League Hacking (MLH) rankings from 117th to 44th in the nation in a span of 2 years
- Reached over 350 active members and enabled more than 150 students experience their first hackathons
- Acquired over $20k in funding for student travel through industry partnerships

USF Engineering EXPO

Tampa, FL

Volunteer Director & Exhibitor — *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

Skills

Languages Python, Java, C++, JavaScript
Libraries NLTK, PyTorch, Keras, Tensorflow, HuggingFace, Jiant, Fairseq, OpenCV, GCP
Tools Android Studio, React Native, Unity, Flask, Tomcat, Kubernetes, Docker, Git, REST

Projects

Coup.ai

Tampa, FL

Personal Project — *September 2019*

- Developed a command-line game bot for a popular multi-player board game *Coup: The Dystopian Universe* using Python and Pytorch
- Trained a bot using deep neural networks to learn the best strategies (i.e. attack, bluff, steal) in the game through self-playing

Classroom.ai

Orlando, FL

KnightHacks 2019 — *March 2019*

- Developed a mobile platform for students to provide anonymous and qualitative feedback to instructors about their confidence/confusion of the class material in real-time
- Trained a K-nearest neighbor (k-NN) classifier to automatically detect confusion levels in students by their postures and facial expressions
- Awarded **1st Place** at KnightHacks 2019