## M Bedir Tapkan


CONTACT INFORMATION

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RESEARCH INTERESTS

Reinforcement Learning, Imperfect information environments, Dark Hex, Policy Gradients, Solving Hex

EDUCATION

**University of Alberta (UofA)**, Edmonton, AB, Canada
*Computer Science*
MsC, Computer Science, 2019 - *Ongoing*

- **Supervisors:** Martin Mueller, Ryan Hayward
- **Thesis Topic:** "Developing a state of the art player for Dark-Hex, an imperfect information version of the game Hex, using Deep Reinforcement Learning"

**North American University (NAU)**, Houston, Texas, USA
*Software Engineering* **Overall-GPA: 3.79 - Major-GPA: 3.94**
B.S., Computer Science, 2015 - 2018

RESEARCH EXPERIENCE

**Undergraduate Research Assistant**
*University of Houston* **January, 2017 - February, 2019**

- **Supervisor:** Dr. Ricardo Vilalta
- Creating a solution that can transfer the previous knowledge to solve new questions, optimization on explore/exploit dilemma for recurring queries.
- Using meta-learning to help reinforcement learning models to achieve adaptivity through environment.
- Using multi-layered deep reinforcement learning systems that are optimized using meta-learning.

TEACHING EXPERIENCE

**Teaching Assistant**
*University of Alberta* **August 2019 - Ongoing**

- TA for CMPUT 355: Algorithms and Puzzles under the supervision of Dr. Ryan Hayward. Helped marking and proctoring, held office hours for students to direct further questions about class material and contributed to the code base development for the class repository.
  **Tools:** Python, Git, Github
- TA for CMPUT 272: Formal Systems and Logic in Computing Science under the supervision of Lorna Stewart. Helped students understanding the material, marking, proctoring.

**Teacher**
*Momentum Learning* **January 2019 - July 2019**

- Taught Python, Java and 3D classes to kids at age 9-15. Focused on fundamentals of programming, how to solve daily problems with certain tools in Computer Science.
- **Tools:** Java, Python, TinkerCAD, Git, Github

**Instructor - Algorithms for ICPC**
*North American University* **January 2018 - May 2018**

- Taught basic to advanced algorithms, data structures, competitive programming basics, basic logic, math and coding to 12 students from freshman to senior using C++/Python, Git/Github. Prepared class curriculum, lesson plan, and homework assignments.
- **Tools:** C++, Python, Git, Github

## Projects

**Anomaly Detection on CO2 levels in ISS** **April 2018**

- Created a tool to analyze CO2 level anomalies and clustering inside International Space Station. Presented Poster and the tool in Wearable Workshop at NASA.
- **Tools:** Python, JavaScript, Pandas, Numpy, Scikit, Flask, HTML/CSS, Adobe Illustrator

**MLRPro - Machine Learning Resume Processor** **April 2017**

- Created a tool that evaluates the submitted resume, according to data that used to feed the machine learning algorithm behind the scene, and gives result that which level of companies given resume is qualified to apply. Worked with a team of 3.
- **Tools:** Python, Flask, HTML/CSS, Adobe Illustrator
- **Repository:** https://github.com/MichaelMMeskhi/MLRP

**Open Source ACM-ICPC Preparation Curriculum** **October-December 2015**

- Created a curriculum to help preparation process of the international competition ACM-ICPC, to self study algorithms and data-structures and to get the underlying concepts of algorithms.
- The curriculum is currently ranked in top 20 most popular open source courses on Github (Article Link)
- **Tools:** C++, Java, C, Python, Git, Github
- **Repository:** https://github.com/NAU-ACM/ACM-ICPC-Preparation

**Scholar Development Center** **February 2016**

Led, organized, and implemented a project that helped students achieve increased awareness for academic success, encouraged career readiness, and improved career opportunities through mentor program.

## Honors and Awards

North American University: Exceptional Merit Scholarship, 2014-2019

North American University: President's Honor Roll , 2016-2018

## Extracurricular Activities

- ACM NAU Chapter ***Chair, Vice Chair, Lab Leader, Senator*** **2015-2018**
- Artificial Intelligence, ACM-ICPC, iOS Development, ***Member in ACM Labs*** **2015-2018**
- NAU Communications Club, NAU Future Leaders Club, ***Graphic Designer*** **2015-2018**
- HackNAU - 2017 — 60+ Attendees hosted, ***Organizer & Director*** **2017**
- HackHouston 2017 Best Project Overall and Best Machine Learning Project, ***$1^{st}$ place*** **2017**
- iHackathon — 30+ Attendees hosted, ***Organizer & Director*** **2016**
- NAU - Moonlight CTF 1, ***Organizer & Co-Director*** **2016**
- ACM-ICPC Regional Contest, ***$18^{th}$ place*** **2016**

## Technical Skills

- **Expert:** Python, C++, PyTorch, Numpy, UNIX, GitHub, Adobe Illustrator
- **Advanced:** C, R, Linux, Git, TensorFlow, Pandas, Scikit-Learn, Java, LaTeX, SQL, Swift, Flask, Django, HTML/CSS, Adobe Photoshop

## References

**References available upon request**