KHOA BUI

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khoabuiv@gmail.com

My Website.

EDUCATION

Concordia University of Edmonton   *September 2018 - Present.*
4th year, Mathematics and Information Technology Double Major   GPA: 3.49.
University of Alberta   *September 2017 - May 2018.*

RESEARCH EXPERIENCE

Concordia University of Edmonton   October 2021 - Ongoing
Stacking for the Ultimate Placement Game   *Supervised by Dr. Svenja Huntemann.*

- Apply topics game theory into working games.

- Implement machine learning methods to efficiently play said games.

- Analyze the computational complexity of the games and the methods of operation.

- Working on project related tasks such as literature reviews and academic writing.

Concordia University of Edmonton   May 2021 - July 2021
Elliptic Curves and Application in Cryptography   *Supervised by Dr. Ha Tran.*

- Study the mathematical theory of elliptic curves.

- Present weekly during Concordia' weekly mathematics seminar.

- Implement elliptic curve's point arithmetic, and cryptography schemes in Sagemath and Python.

- Write a comprehensive report on the project.

Concordia University of Edmonton   May 2020 - July 2020
USRA 2020 PROJECT: The LLL Algorithm's Behavior in Average   *Supervised by Dr. Ha Tran.*

- Study the mathematical background of lattices.

- Implement the lattice reduction Lenstra–Lenstra–Lovász(LLL) algorithm in C, Python, and Sagemath.

- Analyze the complexity and run time of the LLL algorithm.

- Colaborating with other students in a group.

WORK EXPERIENCE

Concordia University of Edmonton   September 2021 - Ongoing
Tutor

- Providing academic support to students on mathematics topics such as calculus, and statistics.

- Communicating with supervisor to best fit students' needs.

Novaco Pharmaceuticals   June 2019 - August 2019
Technical Assistant

- Practiced basic web development practices.

Novaco Pharmaceuticals   June 2017 - August 2017
Accounting Assistant

- Practiced basic accounting practices.

SKILLS

Programming skills:

- Python and Sagemath.

- LaTex.

- Basic understanding of C and related languages.

- Basic understanding of network, and web development implementations.

Other skills:

- Bilingual in English and Vietnamese.

OTHER HIGHLIGHTS

- Gave talks on *Elliptic Curve Cryptography* at Concordia's mathematics seminars.

- Presented my undergraduate mathematics thesis *Lattice Reduction Attacks on Low Exponent RSA Cryptosystem* at Undergraduate Research in Science Conference of Alberta 2021.

- Presented my information technologies thesis on *Reinforcement Learning Based Artificial Intelligence to Play Stacking Games* at various conferences.

- Concordia University of Edmonton's Academic Award.

REFERENCES

- **Ha Tran**, Concordia University of Edmonton, ha.tran@concordia.ab.ca,

- **Rossitza Marinova**, Concordia University of Edmonton, rossitza.marinova@concordia.ab.ca,

- **Svenja Huntemann**, Concordia University of Edmonton, svenja.huntemann@concordia.ab.ca.