

KHOA BUI

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Khoa's Website.

khoabuiv@gmail.com

EDUCATION

Concordia University of Edmonton

4th year, Mathematics and Information Technology Double Major

University of Alberta

September 2018 - Present.

GPA: 3.49.

September 2017 - May 2018.

RESEARCH EXPERIENCE

Concordia University of Edmonton

Stacking for the Ultimate Placement Game

October 2021 - Ongoing

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

Elliptic Curves and Application in Cryptography

May 2021 - July 2021

Supervised by Dr. Ha Tran.

- Study the mathematical theory of elliptic curves.
- Present weekly during Concordia's 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

USRA 2020 PROJECT: The LLL Algorithm's Behavior in Average

May 2020 - July 2020

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.
- Collaborating with other students in a group.

WORK EXPERIENCE

Concordia University of Edmonton

Tutor

September 2021 - Ongoing

- Providing academic support to students on mathematics topics such as calculus, and statistics.
- Communicating with supervisor to best fit students' needs.

Novaco Pharmaceuticals

Technical Assistant

June 2019 - August 2019

- Practiced basic web development practices.

- 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.