

Mohammad Khan

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EDUCATION

Naperville North High School (Junior)

4.714 GPA

Awards

June 2022 Expected Graduation

State Math Team: 2018-19 (1st Place State)

Illinois Junior Classical League Certamen: 2019-20 (State MVP) 2020-21 (State)

4.0 GPA award: 2018-19, 2019-20, 2020-21

National Latin Exam: 2018-19 (Silver), 2019-20 (Gold), 2020-21 (Silver)

College of Dupage (Dual Enrollment)

Calculus and Analytic Geometry III (MATH 2233 / 2235 DC301)

Linear Algebra (MATH-2245-DC301)

COURSE HIGHLIGHTS:

Ongoing:

- AP Chemistry
- AP Physics C
- Linear Algebra

Past:

- AP Biology
- AP Physics 1
- AP Calculus BC (through AOPS)
- Vector Calculus
- Calculus and Analytic Geometry III
- Advanced Chemistry
- Organic Chemistry (through JPH Chemistry Olympiad)

SKILLS + EXPERIENCE

Computer Science: Python (scikit-learn, pandas, numpy, rdkit, pygame), Javascript, HTML/CSS

Software: Inkscape, FL Studio, Github

Languages: Introductory German and Latin

- 2.5 years of chemistry education, in addition to self directed study (including organic chemistry)
- Trading stocks, options, and cryptocurrencies
- Amateur graphic design
- Working with a team

PERSONAL PROJECTS

Machine Learning for the Prediction of Chemical Toxicity Using Structural Alert Data *Fall 2020 - Present*

- Adapting machine learning models to include structural alert (functional group) data with Jupyter and Colab ([GitHub](#))
- Utilizing Pandas and RDKit for vectorized representations of functional groups present in molecules
- Working on implementing a neural network model to enhance LD50 value predictions

Rhythm Game

Winter 2020 - Present

- Managing a team to create a DDR-style rhythm game
- Responsible for digital artwork and written content

EXTRACURRICULARS + ACTIVITIES

Naperville City Council Transportation Advisory Board

Fall 2020 - Present

Student Representative

Naperville North High School Math Team

Fall 2018 - Present

- Part of a team that won first place at the state competition, competing in math-related tests

Naperville North High School Certamen Team

Fall 2018 - Present

- Learning and practicing classics knowledge in a quizbowl-format competition
- Managing the team (team captain)
- Named State MVP in 2020, won at regionals and advanced to state in 2021

Hacktoberfest 2020

Fall 2020

- Contributed to a variety of open-source projects on GitHub