

# Jin Sub Lee

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## EDUCATION

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### University of Toronto

*Ph.D Computational Biology*

Toronto, Canada

*Sep. 2021 – Present*

### ETH Zurich

*MSc Biotechnology*

Zurich, Switzerland

*Aug. 2018 – Feb 2021*

### Yonsei University

*BSc Life Sciences and Biotechnology*

Seoul, South Korea

*Sep. 2013 – Aug 2017*

## EXPERIENCE

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### Research Intern

*deepCDR Biologics*

March 2021 – January 2022

*Basel, Switzerland*

- Exploring various protein representation methods and regression models for low-N antibody engineering
- Development of a web app tool facilitating machine learning model development without code, written using Plotly's Dash framework (HTML/CSS/Python)

### Thesis Project

*Laboratory of Systems and Synthetic Immunology, ETH Zurich*

June 2020 – February 2021

*Basel, Switzerland*

- Antibody secretion optimization of in-house mammalian display platform via cell line engineering
- High-throughput screening of naive human antibody library using developability assays such as AC-SINS (self-aggregation) and common antigen ELISA (polyspecificity)
- Application of protein representation methods for low-N predictive modeling

### Research Project

*Laboratory of Biological Engineering, ETH Zurich*

August 2019 – February 2019

*Basel, Switzerland*

- Development of a computational pipeline (Python/R/Unix) for the analysis of a deep mutational scanning experiment on Cas1 to improve CRISPR spacer acquisition
- Sequence and structural motif analysis of CRISPR arrays to investigate spacer acquisition rates

### Clinical Development Associate

*ImmuneOncia Therapeutics Inc.*

August 2017 – June 2018

*Yongin, South Korea*

- Research and analysis of clinical trials and patents of immune checkpoint targets such as PD-L1, PD-1, LAG-3, and CD47 and potential agents for combinatorial strategies in anticancer therapy
- Part of the medical writing team responsible for drafting, reviewing, and translating clinical documents associated with anti-PD-L1 and anti-CD47 mAb drug candidates

### Research Intern

*Nucleic Acid Nanotechnology Lab, Yonsei University*

August 2016 – June 2017

*Seoul, South Korea*

- Thesis: DNA-based ABC monomers in disease diagnosis and therapy
- Skills: High pressure liquid chromatography, mammalian cell maintenance, nucleic acid hydrogel synthesis

## PROJECTS

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### Interface inpainting of protein-protein complexes

December 2021 – Present

- Using AlphaFold2 likelihoods to autoregressively reconstruct masked interface residues
- Potential application to generating antibody CDR loops given target antigen

## TECHNICAL SKILLS

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**Languages:** Python, R, SQL (mySQL), Bash, HTML/CSS

**Developer Tools:** Git, Docker, AWS

**Libraries:** pandas, numpy, matplotlib, scikit-learn, pytorch, tensorflow