Even though my summer experience lasted only 2 weeks, I developed as a student, researcher, and young adult during that time

MAYO CLINIC
AN EXPERIENCE TO REMEMBER

Location: Mayo Clinic, Rochester MN, USA
Lab: Neruo-informatics Lab
Principal Investigator: Dr.Mohammad Bydon
Student: Mahani Aljanaahi
Duration: July 1- July 15 2023.(2 weeks)
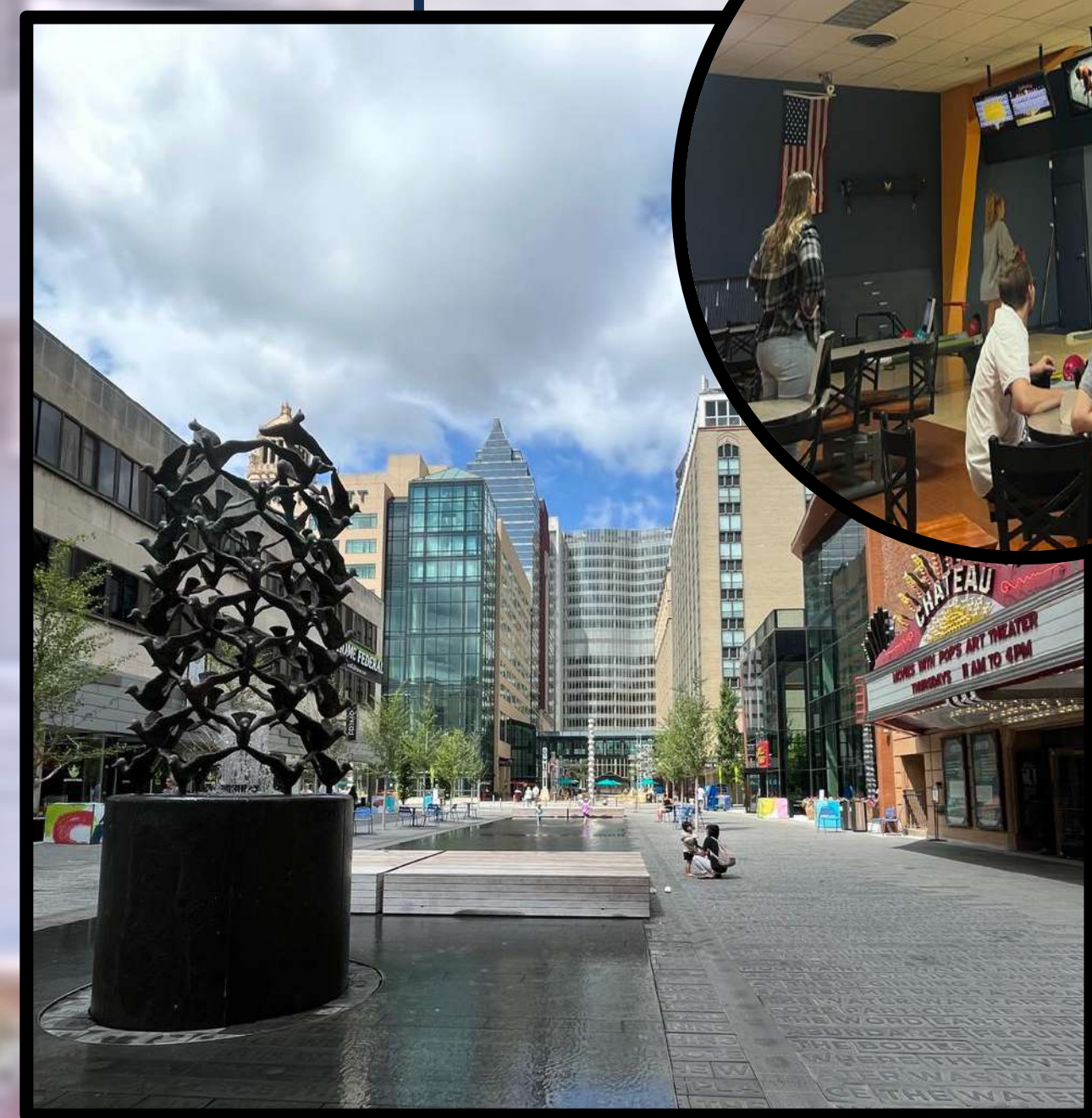
Memories:

The team

Dr. Bydon's Neuro-Infromatics lab, comprises a diverse groups of individuals, all concentrating their research efforts on:
Surgical outcomes, spinal biomechanics, as well as spinal cord injury and disc degeneration

The city of Rochester

Despite the City of Rochester's renowned association with the Mayo Clinic, it boasts a captivating natural landscape adorned with lakes. Alongside such attractions, there is a myriad of activities to engage in. For example, I and my colleagues visited a bowling alley.

The Research:

With the guidance of multiple mentors in the lab, I had the liberty to investigate my own research subjects concerning spine diseases

2 Meta analysis:

1) Reduction vs. Fusion in situ for Isthmic Spondylolisthesis – A Systematic Review & Meta-Analysis

2) The Efficacy of Substance P and NK1 inhibitors for Chronic Traumatic Encephalopathy

MY WORK:

Study	Reduction Events	Total	In-Situ Events	Total	Odds Ratio	OR	95%-CI
Lian FX et al.2014	5	45	4	43		1.22	[0.30; 4.88]
Poussa M et al.2006	6	25	1	23		6.95	[0.77; 62.96]
Fan G et al.2016	0	24	0	21			
Poussa M et al.1993	2	11	1	11		2.22	[0.17; 28.86]
Gong K et al.2010	0	21	0	13			
Molinari RW et al.1999	2	19	5	11		0.14	[0.02; 0.93]
Audat ZM et al.2011	0	20	1	21		0.09	[0.00; 60.65]
Total	**15**	**165**	**12**	**143**		**0.98**	**[0.27; 3.55]**

Heterogeneity: $I^2 = 47\%$, $p = 0.11$
Test for overall effect: $z = -0.03$ ($p = 0.98$)
Favors Reduction / Favors In-Situ

Study	Reduction N	Mean	SD	In-situ N	Mean	SD	MD	95% CI	Weight
Fan G et al.2016	24	5.20	1.00	21	5.28	1.21	-0.08	[-0.73; 0.57]	76.8%
Gong K et al.2010	21	5.30	2.12	13	6.50	2.36	-1.20	[-2.77; 0.37]	17.5%
Molinari RW et al.1999	19	4.73	3.10	11	3.71	4.16	1.02	[-1.80; 3.84]	5.7%
Random effects model	**64**			**45**			**-0.21**	**[-0.89; 0.47]**	**100.0%**
Prediction interval								**[-5.38; 4.95]**	

Heterogeneity: $I^2 = 17\%$ [0%; 91%], $p = 0.30$
Test for overall effect: $z = -0.62$ ($p = 0.54$)
Favors (In-situ) / Favors (Reduction)