

Title: Bridging the Lupus Diagnosis Delay: An Analysis and Comparative Study of Systemic Lupus Erythematosus

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DATE	ACTION	RESOURCES USED	OTHER NOTES
September 19th, 2025	<ul style="list-style-type: none"> - Started brainstorming research ideas 	<ul style="list-style-type: none"> - https://www.sciencebuddies.org/science-fair-projects/topic-selection-wizard/recommendations 	<ul style="list-style-type: none"> - Finalize topic ideas
September 20th, 2025	<ul style="list-style-type: none"> - Called to discuss topics of interest - Finalized on 7 ideas and created research questions for each 	<ul style="list-style-type: none"> - N/A 	<ul style="list-style-type: none"> - Need to meet with teachers in future to discuss ideas
September 23rd, 2025	<ul style="list-style-type: none"> - Discussed with Dr. Iaci Soares and Mx. Dallas Mythril about our topics of interest 	<ul style="list-style-type: none"> - N/A 	<ul style="list-style-type: none"> - Realized few topics were of greater interest and importance than others
September 25th, 2025	<ul style="list-style-type: none"> - Decided to work on our topic about developing early detection for lupus 	<ul style="list-style-type: none"> - N/A 	<ul style="list-style-type: none"> - Considered feedback from teachers in decision - Need to do background research into lupus and current detection systems
September 26th, 2025	<ul style="list-style-type: none"> - Started background research into lupus 	<ul style="list-style-type: none"> - https://pubmed.ncbi.nlm.nih.gov/?term=lupus&sort=date&ac=yes 	<ul style="list-style-type: none"> - Goals: <ul style="list-style-type: none"> - Finish all background research by Oct. 10 - Finish proposal presentation by Oct. 15 - Get feedback from teachers by Oct. 18

			<ul style="list-style-type: none"> - Finish all proposal material by Oct. 21 - Practice by Oct. 23 - Present by Oct. 24
October 3rd, 2025	<ul style="list-style-type: none"> - Collected background information on what lupus is, types of lupus, statistics and current methods of diagnosis 	<ul style="list-style-type: none"> - https://www.mayoclinic.org/diseases-conditions/lupus/symptoms-causes/syc-20365789 - https://www.lupus.org/resources/lupus-facts-and-statistics - https://my.clevelandclinic.org/health/diseases/3929-anemia 	<ul style="list-style-type: none"> - Summary of project: as there is a lack of a standardized test of lupus (a study found that around 66% of individuals were to have been misdiagnosed, though they had lupus, took around 6 years from onset of symptoms for proper diagnosis) our project explores a potential innovative method to do so
October 8th, 2025	<ul style="list-style-type: none"> - Completed collecting background information - Started working on the proposal presentation 	<ul style="list-style-type: none"> - https://www.mayoclinic.org/diseases-conditions/lupus/diagnosis-treatment/drc-20365790 	
October 9th, 2025	<ul style="list-style-type: none"> - First draft of project completed - Submitted online to teachers 	<ul style="list-style-type: none"> - https://my.clevelandclinic.org/health/procedures/21160-kidney-biopsy - https://cordis.europa.eu/article/id/413301-test-for-detecting-lupus-specific-biom 	

		<ul style="list-style-type: none"> - arkers-improves-diagnosis https://www.lupus.org/resources/lupus-facts-and-statistics - https://www.mayoclinic.org/diseases-conditions/lupus/diagnosis-treatment/drc-20365790 - https://www.mayoclinic.org/diseases-conditions/lupus/symptoms-causes/syc-20365789 - https://medlineplus.gov/lab-tests/ana-antinuclear-antibody-test/ - https://my.clevelandclinic.org/health/diseases/3929-anemia 	
October 15th, 2025	<ul style="list-style-type: none"> - Met with mentor, Ms. Fauzia Akhter to discuss proposal - Received feedback 	- N/A	<p>Schedule</p> <ul style="list-style-type: none"> - October 15th - Receive Teacher Feedback - October 16th - Final Presentation Draft - October 23rd - Practice & Present
October 16th, 2025	<ul style="list-style-type: none"> - Met online to discuss feedback and make changes accordingly to presentation - Updated slides with more statistics and 	- https://www150.statcan.gc.ca/n1/pub/82	- Ask Dr. Soares to review project Friday during class

	added more information	<ul style="list-style-type: none"> - -619-m/2006003/4053548-eng.htm - https://pubmed.ncbi.nlm.nih.gov/33961687/ - https://www.rhcnj.com/blog/the-link-between-sun-sensitivity-and-lupus - https://www.ncbi.nlm.nih.gov/books/NBK526061/ - https://medlineplus.gov/ency/article/000446.htm 	<ul style="list-style-type: none"> - Practice over weekend for proposal next Friday
October 17th, 2025	<ul style="list-style-type: none"> - Presented our proposal for the first time and got feedback <ul style="list-style-type: none"> - Separate slides for different types of lupus - Include treatment - Use simpler terms 	N/A	<ul style="list-style-type: none"> - Need to make the presentation more concise to fit in 5 mins
October 21st, 2025	<ul style="list-style-type: none"> - Edited presentation to include the given feedback 	<ul style="list-style-type: none"> - https://www.lupus.org/resources/about-drug-induced-lupus - https://my.clevelandclinic.org/health/diseases/21601-cutaneous-lupus-skin-lupus 	<ul style="list-style-type: none"> - Need to practice presenting our final version - Set up a meeting to talk to Ms. Fauzia about our presentation

October 22nd, 2025	<ul style="list-style-type: none"> - Got feedback from Ms. Rachel Reed - Practiced presenting 		<ul style="list-style-type: none"> - Try to condense the info - Don't go over 5 mins - Combine slides - Make the goal clearer
October 24, 2025	<ul style="list-style-type: none"> - Presented our proposal - Reflected on our presentations - Created a timeline for the next month 	N/A	<p>RESEARCH STAGE</p> <p>October 31st - Finish Researching Administered Tests</p> <p>November 7th - Research Related Diseases</p> <p>November 14th - Find Detection Systems of Related Diseases</p> <p>November 21st - Compare Findings</p> <p>Meet With Ms. Fauzia</p> <p>November 28th - Find New, Innovative Studies</p> <p>December 5th - Develop a Thorough Understanding of Studies</p> <p>December 12th - Finish Research Stage</p> <p>Meet With Ms. Fauzia</p>
November 6th, 2025	<ul style="list-style-type: none"> - Received an email that the project was selected to represent Renert School at the CYSF 	N/A	
November 12th, 2025	<ul style="list-style-type: none"> - Edited timeline based on selection confirmation 	N/A	<p>RESEARCH STAGE (END OF DECEMBER)</p> <p>November 21st - Finish Researching Administered Tests</p> <p>December 3rd - Research Related Diseases</p> <p>December 12th - Find Detection Systems of Related Diseases</p> <p>December 23rd - Compare Findings</p>

			<p>BREAK</p> <p>December 28th - Find New, Innovative Studies</p> <p>January 1st - Develop a Thorough Understanding of Studies</p> <p>January 4th - Finish Research Stage</p> <p>Meet With Ms. Fauzia</p>
November 17th, 2025	- Continued researching administered tests	<p>https://my.clevelandclinic.org/health/diseases/3929-anemia</p> <p>https://medlineplus.gov/lab-tests/ana-antinuclear-antibody-test/</p> <p>https://www.mayoclinic.org/diseases-conditions/lupus/diagnosis-treatment/drc-20365790</p> <p>https://www.lupus.org/resources/lupus-facts-and-statistics</p> <p>https://www.mayoclinic.org/diseases-conditions/lupus/diagnosis-treatment/drc-20365790</p> <p>https://www.hopkinsmedicine.org/health/conditions-and-diseases/lupus/lupus-treatment?utm_source=chatgpt.com</p>	
November 24th, 2025	- Started researching related diseases	<p>https://www.mayoclinic.org/diseases-conditions/sjogrens-syndrome/symptoms-causes/syc-20353216</p> <p>https://www.lupus.org/resources/common-</p>	

		<p>diseases-that-overlap-with-lupus https://www.hopkinsjogrens.org/disease-information/diagnosis-sjogrens-disease/blood-and-urine-tests/ https://www.mayoclinic.org/diseases-conditions/raynauds-disease/symptoms-causes/syc-20363571 https://www.mayoclinic.org/diseases-conditions/raynauds-disease/symptoms-causes/syc-20363571 https://pmc.ncbi.nlm.nih.gov/articles/PMC12051072/</p>	
<p>Novemeber 28th, 2025</p>	<p>- Researched detection systems for related diseases</p>	<p>https://www.mayoclinic.org/diseases-conditions/sjogrens-syndrome/symptoms-cause/syc-20353216 https://www.lupus.org/resources/common-diseases-that-overlap-with-lupus https://www.hopkinsjogrens.org/disease-information/diagnosis-sjogrens-disease/blood-and-urine-tests/ https://www.mayoclinic.org/diseases-conditions/raynauds-disease/symptoms-causes/syc-20363571 https://www.mayoclinic.org/diseases-conditions/raynauds-disease/symptoms-causes/syc-20363571 https://pmc.ncbi.nlm.nih.gov/articles/PMC12051072/</p>	

December 1st, 2025	<ul style="list-style-type: none"> - Started looking into new innovative studies 	https://med.stanford.edu/news/all-news/2025/11/lupus-epstein-barr.html	
December 2nd, 2025	<ul style="list-style-type: none"> - Met with Ms. Fauzia 		Recommended using AI to find relevant studies
December 5th, 2025	<ul style="list-style-type: none"> - Continued looking for new studies - Submitted our Ethics Care 2A form 		Waiting for approval
December 8th, 2025	<ul style="list-style-type: none"> - Started researching relevant genes and biomarkers 	https://pmc.ncbi.nlm.nih.gov/articles/PMC12662787/ https://pmc.ncbi.nlm.nih.gov/articles/PMC10968647/ https://med.stanford.edu/news/all-news/2025/11/lupus-epstein-barr.html https://www.frontiersin.org/journals/immunology/articles/10.3389/fimmu.2025.1467027/full https://lupustherapeutics.org/lupus-clinical-research-a-new-wave-of-innovation/ https://pmc.ncbi.nlm.nih.gov/articles/PMC12367050/ https://lupus2025.kenes.com/wp-content/uploads/sites/63/2025/05/4.-LUPUS-2025-Poster-Viewing-Presentations.pdf https://www.science.org/doi/10.1126/science.adp2407 https://www.lupusresearch.org/lupus-2025-lupus-research-allian	

		ce-and-lupus-therapeutics-highlights/ https://www.sciencedirect.com/science/article/pii/S2589004225000136	
December 9th, 2025	- Met with Ms. Fauzia		Recommended finding easy-to-understand statistics
December 12th, 2025	- Started working on the presentation - Finished filling out the basic info of our project on the CYSF platform		
December 15th, 2025	- Went further into our research on innovative studies to develop a further understanding	https://pmc.ncbi.nlm.nih.gov/articles/PMC11907206/ https://pmc.ncbi.nlm.nih.gov/articles/PMC11979941/ https://pmc.ncbi.nlm.nih.gov/articles/PMC9550089/ https://linkinghub.elsevier.com/retrieve/pii/S004901722500232X https://www.mdpi.com/2076-3417/15/3/1590 https://journals.lww.com/10.4103/pulmon.pulmon_19_25 https://www.mdpi.com/1422-0067/25/2/805/pdf?version=1704779742 https://academic.oup.com/jpp/advance-article/doi/10.1093/jpp/r-gaf096/8287786 https://www.cureus.com/articles/370670-novel-biomarkers-and-advanced-imaging-in-cardiovascular-risk-s	

		tratication-for-rheumatic-diseases https://www.mdpi.com/1467-3045/47/8/647 https://journals.lww.com/10.1097/MOU.00000000001308 https://link.springer.com/10.1007/s10803-025-07047-9 https://www.eurekaselect.com/243743/article https://www.mdpi.com/1422-0067/26/19/9282 https://www.frontiersin.org/articles/10.3389/fimmu.2025.1518208/full https://pmc.ncbi.nlm.nih.gov/articles/PMC3728979/ https://pmc.ncbi.nlm.nih.gov/articles/PMC8792845/ https://pmc.ncbi.nlm.nih.gov/articles/PMC2857808/	
December 16th, 2025	<ul style="list-style-type: none"> - Touched up the logbook - Met with Ms. Fauzia 		
Winter Break	<ul style="list-style-type: none"> - Worked on the project and developed the layout for the slideshow - Created a script for the presentation 		
January 6th, 2026	<ul style="list-style-type: none"> - Met with Ms. Fauzia to receive approval for the slideshow layout - Started implementing research from the document and speaker notes into the slideshow - Still have to insert references and image citations 		

January 7th, 2026	<ul style="list-style-type: none"> - Continued inserting research from the document and speaker notes into the slideshow - Nearly finished presentation (still have to insert references and image citations) 		
January 8th, 2026	<ul style="list-style-type: none"> - Met with Ms. Fauzia to receive feedback for the presentation on the 9th - Inserted references and image citations - Finalized and submitted the presentation 		
January 9th, 2026	<ul style="list-style-type: none"> - Presented our current research - Received feedback from Ms. Fauzia 		<ul style="list-style-type: none"> - Make fonts larger - Include more statistics about financing and costs
January 13th, 2026	<ul style="list-style-type: none"> - Met with Ms. Fauzia to receive more feedback - Started designating parts of the paper 		<ul style="list-style-type: none"> - Ankitha: <ul style="list-style-type: none"> - Introduction - Method - Sahiti: <ul style="list-style-type: none"> - Problem
January 16th, 2026	<ul style="list-style-type: none"> - Started planning innovation - Continued working on the paper 		<ul style="list-style-type: none"> - Innovation <ul style="list-style-type: none"> - Formulate different steps of testing that incorporate our research
January 18th, 2026	<ul style="list-style-type: none"> - Met to discuss innovation further - Formatted our paper 		
January 20th, 2026	<ul style="list-style-type: none"> - Met with Ms. Fauzia and reviewed the status of our project 		<ul style="list-style-type: none"> - Considered changing titles <ul style="list-style-type: none"> - A Deep Analysis and Comparative Study of Lupus Disease

January 23rd, 2026	<ul style="list-style-type: none"> - Touched up the logbook - Continued working on the problem section of the paper - Continued planning innovation - Scheduled a time to meet <ul style="list-style-type: none"> - Sunday 9 pm 		<ul style="list-style-type: none"> - Dr. Soares feedback <ul style="list-style-type: none"> - Include comparison tables - Draw our own models of the biomarkers - Need summaries of each section
January 27th, 2026	<ul style="list-style-type: none"> - Met with Ms. Fauzia <ul style="list-style-type: none"> - Discussed the trajectory of our project - Continued developing innovation - Continued working on our paper 		<ul style="list-style-type: none"> - Worked on the introduction, problem, method, conclusion, and acknowledgments
January 29th, 2026	<ul style="list-style-type: none"> - Finished introduction, problem, method, conclusion, acknowledgments 		<ul style="list-style-type: none"> - Start working on research, data, and sources of error - Need to finalize innovation - Also need to develop the presentation
January 30th, 2026	<ul style="list-style-type: none"> - Finalized innovation idea - Started working on research, data, sources of error and innovation - Started ideating the presentation 		
February 3rd, 2026	<ul style="list-style-type: none"> - Met with Ms. Fauzia <ul style="list-style-type: none"> - Went over the current sections of our paper - Finished the research and sources of error sections of our paper 		<ul style="list-style-type: none"> - Need to add citations in APA format
February 6th, 2026	<ul style="list-style-type: none"> - Finished first draft of our paper <ul style="list-style-type: none"> - Need to add in-text citations, references, data, and the innovation section 		<ul style="list-style-type: none"> - Need to fully develop our innovation section
February 10th, 2026	<ul style="list-style-type: none"> - Developed a new detection model - Met with Ms. Fauzia <ul style="list-style-type: none"> - Discussed our new model and got feedback 		<ul style="list-style-type: none"> - Need to work on our presentation

February 13th, 2026	<ul style="list-style-type: none"> - Implemented our proposed model into the paper and presentation 		<ul style="list-style-type: none"> - Need to complete the data section of the paper
February 16th, 2026	<ul style="list-style-type: none"> - Finished the data section of our paper - Waiting for teacher feedback 		<ul style="list-style-type: none"> - Should meet with Ms. Fauzia, Ms. Rachel and Ms. Madison for feedback
February 20th, 2026	<ul style="list-style-type: none"> - Continued to work on our presentation 		<ul style="list-style-type: none"> - Need to add citations and speaker notes to our presentation
February 23rd, 2026	<ul style="list-style-type: none"> - Finished our presentation 		<ul style="list-style-type: none"> - Need to practice
February 24th, 2026	<ul style="list-style-type: none"> - Practiced presenting our presentation 		<ul style="list-style-type: none"> - Finish the paper entirely
February 25th, 2026	<ul style="list-style-type: none"> - Finalized references for paper 		<ul style="list-style-type: none"> - Try to get more teacher feedback
February 26th, 2026	<ul style="list-style-type: none"> - Implemented Ms. Rachel's feedback on our paper - Found a dataset for a coding model 		<ul style="list-style-type: none"> - Need to work on the coding model to back up our proposed detection system
February 27th, 2026	<ul style="list-style-type: none"> - Started our coding decision tree model 		<ul style="list-style-type: none"> - Try to increase the variability of the model
February 28th, 2026	<ul style="list-style-type: none"> - Worked on coding decision tree model <ul style="list-style-type: none"> - Switched from a decision regressor to a binary classification model 		<ul style="list-style-type: none"> - Need to make the banner, video, and project image - Also need to take a photo of us

March 1st, 2026	<ul style="list-style-type: none">- Record our presentation video- Add coding model to our paper and presentation		<ul style="list-style-type: none">- Have to upload data to the platform
March 2nd, 2026	<ul style="list-style-type: none">- Touched up the logbook- Created the banner and header image- Upload data to the platform		