A Specific, Concise, and Descriptive Title

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*Abstract*—Your abstract should consist of a single paragraph up to 250 words, with correct grammar and unambiguous terminology. Provide a concise summary of the project. Include the conclusions reached and the potential implications of those conclusions. It should be self-contained -- no abbreviations, footnotes, references, or mathematical equations. It also should highlight what is unique in your work.

# Introduction (*Heading 1*)

Help the reader understand why your project is important and how it could enrich your knowledge of topics in ESE 105. End with a description of the exact goal(s) or outcome(s) that your project aims to achieve.

Make this report as concise as possible -- aim for 2-3 pages. It must be no longer than 4 pages.

In this case study, we are trying to see how we can stimulate an image from a lens of a camera, TV, glasses, and/or how our eyes can form or help us see a full image. Understanding how an image can be formed and how light travels through time and space. From what we know about light is that light travels like a wave, like sound waves, or water waves since they travel, unlike light in this case it has another way to travel which is rays. Rays are the position of x and y and direction meaning the angels that the light is traveling. We know that light can bend in different angles, for example light can reflect through objects as in taking a mirror and reflecting the light on your own. Another example is taking a flashlight once you turn it on, you have a somewhat amount of light in front of you to see how far the light can travel through the dark (Positions x and y). Also, how wide the light (angels) travel.

# Methods

Formulate your project goals. Describe the methods you used to complete the project. Define any relevant terminology. Include any equations that contributed to your work.

## A Sample Subsection, Should You Need It

Use the [built-in equation functionality within Word](https://support.microsoft.com/en-us/office/write-an-equation-or-formula-1d01cabc-ceb1-458d-bc70-7f9737722702#ID0EAACAAA=Write_new_equation) to write and format your equations. Number equations consecutively. Equation numbers, within parentheses, are to position flush right, as in (1), using a right tab stop. To make your equations more compact, you may use the solidus ( / ), the exp function, or appropriate exponents. Italicize Roman symbols for quantities and variables, but not Greek symbols. Use a long dash rather than a hyphen for a minus sign. Punctuate equations with commas or periods when they are part of a sentence, as in:

. 

Note that the equation is centered using a center tab stop. Be sure that the symbols in your equation have been defined before or immediately following the equation. Use “(1)”, not “Eq. (1)” or “equation (1)”, except at the beginning of a sentence: “Equation (1) is . . .”

## Figures and Tables

Delete this subsection once you read it.

#### Positioning Figures and Tables: Place figures and tables at the top and bottom of columns. Avoid placing them in the middle of columns. Large figures and tables may span across both columns. Figure captions should be below the figures; table heads should appear above the tables. Insert figures and tables after they are cited in the text. Use the abbreviation “Fig. 1”, even at the beginning of a sentence.

1. Table Type Styles

| Table Head | Table Column Head | | |
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| Table column subhead | Subhead | Subhead |
| copy | More table copya |  |  |

1. Sample of a Table footnote. (*Table footnote*)
2. Example of a figure caption. (*figure caption*)

Figure Labels: Use 8 point Times New Roman for Figure labels. Use words rather than symbols or abbreviations when writing Figure axis labels to avoid confusing the reader. As an example, write the quantity “Magnetization”, or “Magnetization, M”, not just “M”. If including units in the label, present them within parentheses. Do not label axes only with units. In the example, write “Magnetization (A/m)” or “Magnetization {A[m(1)]}”, not just “A/m”. Do not label axes with a ratio of quantities and units. For example, write “Temperature (K)”, not “Temperature/K”.

# Results and Discussion

Show the results that you achieved in your work and offer an interpretation of those results. Acknowledge any limitations of your work and avoid exaggerating the importance of the results.

**Task 2: Exploring pixels and sensor width using ray2img**

A MATLAB code with a function ray2img() was provided, which modeled the behavior of a camera sensor. When inputting the parameters of the values of the given ray data, sensor width, and pixel number, the location of where a ray hits a pixel can be outputted. Having a control with sensor width of 5mm and pixel number at 200, a collection of dots can be seen. To attempt to sharpen the image and recreate the image shown in **Figure X**, the values of the sensor width and pixel number were variable. Increasing the

# Conclusion

Summarize your key findings. Include important conclusions that can be drawn. Discuss benefits or shortcomings of your work and suggest future related project ideas you might like to explore in the future.

##### References

Provide citation information for all the previous publications referred to in your paper. Cite only those references that directly support your work.

The template will number citations consecutively within brackets [1]. The sentence punctuation follows the bracket [2]. Refer simply to the reference number, as in [3]—do not use “Ref. [3]” or “reference [3]” except at the beginning of a sentence: “Reference [3] was the first ...”

1. G. Eason, B. Noble, and I. N. Sneddon, “On certain integrals of Lipschitz-Hankel type involving products of Bessel functions,” Phil. Trans. Roy. Soc. London, vol. A247, pp. 529–551, April 1955. *(references)*
2. J. Clerk Maxwell, A Treatise on Electricity and Magnetism, 3rd ed., vol. 2. Oxford: Clarendon, 1892, pp.68–73.
3. I. S. Jacobs and C. P. Bean, “Fine particles, thin films and exchange anisotropy,” in Magnetism, vol. III, G. T. Rado and H. Suhl, Eds. New York: Academic, 1963, pp. 271–350.
4. K. Elissa, “Title of paper if known,” unpublished.
5. R. Nicole, “Title of paper with only first word capitalized,” J. Name Stand. Abbrev., in press.
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7. M. Young, The Technical Writer’s Handbook. Mill Valley, CA: University Science, 1989.

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