

Thesis Project Portfolio

**Takeaways from an Internship; How to Expand Upon Learned Skills
to Full-time Employment**

(Technical Report)

An Inquiry into the Determinants of Female Representation in Computer Science

(STS Research Paper)

An Undergraduate Thesis

Presented to the Faculty of the School of Engineering and Applied Science

University of Virginia • Charlottesville, Virginia

In Fulfillment of the Requirements for the Degree

Bachelor of Science, School of Engineering

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Department of Computer Science

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Socio-technical Synthesis

My technical report and STS research are tightly associated with Computer Science, specifically the dynamics of females in the professional workplace. As a woman majoring in computer science and pursuing a future job within the field, both pieces center around full-time employment in the field of computer science from a female's perspective. Where the two works differ is in the nature of the discussion. My state-of-the-art technical report details my internship experience at a service industry-based software company. The technical work primarily focuses on the practical nature of the internship, including the process design of my software feature and my deliverables. My STS research investigates the gender gap in computer science by identifying the factors that have led to a disproportionate representation of women in the field.

The focus of my technical report centers around my internship experience and the future implications of the work completed. My internship role at the company was as a software developer working specifically on enhancing an application feature that creates data tables from scratch. The basis of the company's product was implementing a low-code platform for users. Low code's premise is that users with little to no coding experience can use the platform with ease and fluidity. In the scope of the feature, a data table is a tool to store a collection of data and make connections between relevant data. As my technical report documented, my internship concentrated on feature enhancements and improving overall functionality.

My STS research focuses on identifying the determinants that have led to the underrepresentation of females in computer science. Doing so includes investigating the

background of this trend, specifically how the female proportion of computer science undergraduates has increased or decreased over the past few decades. Coupled with an in-depth background to the issue, identification of the personal and social factors that have played a role in this gender imbalance. These factors are supported by data collections and surveys that all investigate the problem of gender underrepresentation and the culture of stereotypes in computing.

Writing both of these pieces in conjunction has helped me to reflect on my role as a female in this underrepresented field. I became more cognizant of my prior relationships in the workplace and any possible stereotypes I witnessed. By writing my technical report last semester and then following that with the writing of my STS research this semester, I achieved a greater sense of awareness. Specifically, I had a great internship experience despite a potential disproportion in genders, and moving forward, I hope to prioritize a workplace environment that emphasizes gender equilibrium and works to dismantle any stereotypes if they were to exist.