

Thesis Project Portfolio

Lost Potential: Improving the UVA CS Technical Report for Career-Ready Outcomes

Consequences of the Differences in Regulations for Website Accessibility in the Public and Private Sectors

An Undergraduate Thesis

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Jacob Michael Wald

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Department of Computer Science

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Sociotechnical Synthesis

The topic of my technical and STS theses differ significantly, both in their focus and their motivations. My technical report critiques and proposes a revised structure for the Computer Science (CS) technical report (TR) at UVA, aiming to address the shortcomings I and many of my peers experienced during our senior year. In contrast, my STS paper examines how the Americans with Disabilities Act (ADA) regulates digital accessibility differently in the public and private sectors, and the consequences of this uneven regulation. Although these two projects explore different domains, they share a common thread: both seek to highlight and address systemic gaps that leave individuals underserved. Feeling let down by my university's lack of support in preparing an impactful technical report, I was inspired to critically analyze and propose reforms to the CS TR structure — a uniquely 'technical' project shaped by and responding to my direct experience. Simultaneously, as a CS student with a disability, I felt compelled to use my STS research to shed light on the lack of meaningful enforcement mechanisms for digital accessibility in the private sector, an urgent issue as more of life shifts online.

The primary goal of my technical report was to propose a more structured and career-relevant framework for the CS TR at UVA. I argued for reintroducing industry partnerships, project-based learning, and structured mentorship – elements that would allow future CS students to highlight real-world skills rather than devising conceptual proposals without substantial technical depth. When you look at TRs across the engineering majors at UVA, you are sure to find countless meaningful and technical projects that clearly showcase four years of impactful education at a prestigious university. I argue that the same cannot be said for a sizable portion of CS students in the engineering school at UVA. My proposal called for coordinated projects with

non-profits and small businesses, with team-based collaboration and periodic mentorship from UVA alumni or industry professionals. This model seeks to equip students with both technical and professional skills, better preparing them for the realities of the job market while at the same time contributing positively to the community. By creating a structured bridge between academia and industry, students would leave UVA with tangible evidence of their technical skills, rather than abstract theoretical papers.

My STS research focused on investigating the regulatory divide within the ADA regarding digital accessibility. I explored how Title II, which governs public entities, has seen clear updates mandating compliance with WCAG 2.1 standards, while Title III, which governs private businesses, remains vague and inconsistently enforced. Applying Actor-Network Theory (ANT), I examined how legal infrastructures, technologies, and social actors construct disability as an experience rather than merely a physical or mental trait through inaccessible design and ambiguous regulation. Through this lens, I showed that digital inaccessibility is not simply an unfortunate oversight; it is a socially constructed barrier, one exacerbated by the government's failure to extend clear, enforceable standards to the private sector. Both of my projects, while addressing different topics, reflect a commitment to identifying systemic shortcomings and advocating for structural changes that make technical and social environments more inclusive, equitable, and meaningful for everyone.

