

There is a Lack of Diverse Role Models in Computer Science

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Whilst I have never been one for role models, preferring to respect influential individuals on a personal level with minimal idolisation, I faced a peculiar and unanticipated issue in finding a role model to write about: there is an incredibly small amount of people I can see aspects of myself in within not only the field of software engineering, but computer science and tech as a whole. It goes without saying, computer science has a diversity problem.

As of 2018, during the college's application for their Bronze Athena SWAN award, it was found that only 27% of the academic staff in SCSS are female¹, and I can count the amount of lecturers I have had that are women on one hand. Using the amounts of selection for each pronoun role in one of the SCSS undergrad *Discord* servers, we can estimate that ~25% of the students identify as female². These two figures both roughly correspond with 2017 figures for women working in the field of Computer and Mathematical Sciences in the United States, which was 26.9%³. And it is necessary to note, that there are minimal sources for statistics on the amount of queer people, especially trans and non-binary people (with most surveys/studies out-right excluding non-binary people from their data), and people with disabilities in Computer Science, and particularly Software Engineering.

Despite the lack of data on queer people in CS, we only have to go so far as to look at perhaps one of the most influential figures in Computer Science, Alan Turing, to see the historic treatment of queer people within our field. Whilst it would be foolish to say that things haven't gotten dramatically better in recent years, the attitudes that killed Turing are still alive and well today.

We don't even need to go digging through the archives to find incidences of this happening, with the streaming giant *Netflix* firing a number of its transgender staff (including at least one software engineer) during the controversy that followed comedian Dave Chapelle's comedy special *The Closer* this month⁴⁵. This hostility in the workplace is wide spread, and the majority of organisations working in the tech sector suffer from similar issues, with the "frat boy" atmospheres of the likes of *Activision Blizzard*⁶ and *Riot Games*⁷ coming to mind. With each case comes some glacial degree of progress, but this progress is coming at the cost of the lives of minority members, and it seems that everything is being done by those in power to prevent this change. This is particularly heightened by the fact that unions for tech workers are still only in their early days, and there is strong opposition from the major tech giants against them, with employees who attempt to organise their workplace being regularly fired⁸.

My heart sinks hearing about the latest developments in monitoring worker productivity in the tech sector. I would hope the mere mention of facial and tone of voice recognition systems would raise alarm bells for most, but they particularly terrify me as an autistic person, who's tone of voice and body language differs greatly from that which is expected from a allistic employee⁹. While we are yet to see the full ramifications of such monitoring software, I think it would be naive to expect them to not further homogenise workplaces. We have already seen the outcomes of AI assisted resume filtering, where Amazon was using an AI, trained on their current (predominantly cisgender, white and male) employees, to filter job applications which then identified and declined applications from women, even when all references to gender were removed¹⁰.

And these aren't just case studies or isolated incidents. Being trans-femme and autistic, I can think of a long list of personal experiences I have had in regards to exclusion in this field, and I can say with certainty that my peers from under-represented backgrounds have their own, all-too-similar stories. Personally, I am far too familiar with some of the persistent attitudes within the field, an attitude of ignorance and disregard to the idea of someone different to one's self; one that too frequently raises it's head is an emboldened sense of superiority and vulnerable individuals become nothing more than the punchline of a joke. What seem like simple requests for improved accessibility frequently turn into exhausting and demeaning email chains and meetings with admins with horrendously unclear communication (which is particularly bad when combined with being autistic). Where the documentation and policy that is supposed to protect vulnerable individuals contains out of date and potentially harmful definitions and ideas. In my few short years as a student, I have seen why our field is so homogeneous, and I have struggled against the mechanisms that exist to keep it that way. In the face of such opposition, any self respecting individual would consider a different field.

I would absolutely love to have a long list of notable people in computer science and software engineering that I could write about, but unfortunately these are so few and far between, and all too frequently their stories are ones of overcoming insurmountable odds; battling through arbitrary barriers put in place by the regressive and outdated ideas and attitudes in this field. Their stories aren't happy, and whilst I would love for all of them to have a happy ending, an unfortunate amount don't. It is a very strange feeling to be in such a small minority in your field, struggling with both ignorance and hostility, wishing desperately to see people like you succeed. It is often overlooked that not only do these ideologies and attitudes push under-represented people to their limits, they have to also juggle this with the strains of day to day life, their own health (especially in the cases of people with disabilities) and have to put up with being a hot button political issue; subject to being the topic of endless negative news cycles, to being a morbid curiosity (and often times a fetish) for the majority.

Instead of constantly highlighting the work of some fantastic individuals in CS, we need to stop and acknowledge all those who have struggled in this field, those who have been victim to these negative attitudes, who fought and fought and fought to bring our field closer to any standards of acceptability, one small step at a time. I whole-heartedly have nothing but admiration for all those from under-represented backgrounds in this field, both presently and previously; for all those that fought tirelessly and overcame the odds, those that are just getting by in a job in this sector, those who had to leave the field for their own health/safety, and for all those who unfortunately aren't with us anymore.

Terminology

Trans-femme: A transgender or non-binary individual who's gender expression is femininely aligned

Trans-masc: A transgender or non-binary individual who's gender expression is masculinely aligned

Note: *Trans-femme/masc are umbrella terms that include a wide range of identities, however they are not all encompassing and there are countless gender identities that exist outside them.*

Cisgender: Not transgender

Allistic: Not autistic

Notes

¹<https://www.tcd.ie/equality/assets/docs/TrinityCollegeDublinInstitutionalBronzeRenewal2018.pdf>

²The ratio is 76:31:16 He/Him:She/Her:They/Them. This provides us only with an estimate as gender identity and preferred pronouns are not intrinsically tied and also I have noticed a general reluctance from cisgender men to list their pronouns. I would suspect the figure from the Athena SWAN submission to be closer to this value had they accounted for faculty that do not identify as either Male or Female

³<https://nces.nsf.gov/pubs/nsb20198/demographic-trends-of-the-s-e-workforce#women-in-the-s-e-workforce>

⁴<https://www.theverge.com/2021/10/11/22720724/netflix-suspends-trans-employee-tweeted-dave-chappelle-the-closer>

⁵<https://www.theverge.com/2021/10/15/22728337/netflix-fires-organizer-trans-employee-walkout-dave-chappelle>

⁶<https://news.bloomberglaw.com/daily-labor-report/activision-blizzard-sued-by-california-over-frat-boy-culture>

⁷<https://kotaku.com/inside-the-culture-of-sexism-at-riot-games-1828165483>

⁸<https://www.theverge.com/2019/11/25/20983053/google-fires-four-employees-memo-rebecca-rivers-laurence-berland-union-busting-accusation-walkout>

⁹<https://www.nytimes.com/2020/09/29/style/testing-schools-proctorio.html>

¹⁰<https://www.reuters.com/article/us-amazon-com-jobs-automation-insight-idUSKCN1MK08G>