Department of Computer Science
College of Science
Purdue University

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Dear Search Committee,

I am writing to apply for the Tenure-Track assistant professor position in the department of Computer Science at Purdue.

I am a postdoctoral scholar at the University of California, Berkeley working at the intersection of **Distributed Systems**, **Programming Languages**, and **Databases**. My current research takes an interesting observation: for every new platform—be it personal computers, smartphones, or web browsers—a new programming language has arrived to truly unlock its potential. It's been over a decade. Where is the programming language for the cloud? Answering this question spans a wide range of research areas, from core systems engineering to language design and type system development. While I have a strong record of performing both pure systems and pure programming languages research, I'm particularly motivated by research at the intersection between these fields.

I have published research under two different names. While my CV and included materials uses my current name (Mae Milano), publisher-hosted PDFs of my earlier work may use my old name, Matthew Milano. I apologize in advance for any confusion this may cause. Additionally, I appear to share a name with a (newly arrived) adult performer, so I would recommend enabling SafeSearch when looking me up!

I have attached the following:

- Curriculum Vitae
- Research Statement
- Teaching Statement

In addition, I have included background on my commitment to Diversity, Equity, and Inclusion on the second and third page of this cover letter.

Thank you for taking the time to review my application!

Sincerely,

Mae Milano

Diversity, Equity and Inclusion Statement—Mae Milano (mpmilano@berkeley.edu)

Throughout my life, I have felt a commitment to equity and inclusion, recognizing that diversity—be it diversity of gender, race, income, or even perspective—brings value to every community [3]. This commitment has been borne out through my activities in both a professional and personal capacity. Just since finishing undergrad, I have taught courses to low-income elementary school students, served as transitional mentor to first-generation PhD students of color, created and run workshops to introduce girls to STEM topics (in a fun way!), co-founded an event dedicated to increasing access to research, and served in a national nonprofit, among other activities. As a transgender woman, I also bring a unique perspective. Having first-hand experience of how the world treats both women and men has afforded me an excellent, experiential tutorial on the role of privilege in the academy and beyond.

Inreach in graduate school In all stages of my education, I was privileged to benefit from the attention of incredible mentors and peers, all of whom were committed to lifting me up and encouraging me on the path to an academic career. When I raised issues of departmental climate with administrators, I was listened to, heard, and given the opportunity to make my case directly to the department chair; I had faculty reaching out to me, inviting me to join them on a research project.

Hoping to pay my experiences forward, I joined Cornell CS's mentoring program as a first-year mentor, serving over the course of my PhD as the direct mentor for seven PhD students, four of whom were people of color and three of whom were first-generation college students. As I helped these students navigate the transition to graduate school, find advisors, and fill out forms, I became keenly aware of just how much the structure of academia made possible my exceptional experiences within it.

At the time, Cornell CS's administration eschewed explicit policy documents in favor of an open-door policy and admirable availability. But while this policy served me well, it did not serve all; policies which require students to traverse vast power structures in order to be heard are well-known to disproportionately disenfranchise women and other under-represented minorities [2]. To address this, I worked with my peers to re-found the Cornell Computer Science Graduate Organization (CSGO), and made easy, anonymous, well-advertised mechanisms by which students could raise awareness of issues with the CSGO or run in CSGO elections. Our efforts bore fruit; by its third year of existence, CSGO's board contained 40% women and 25% people of color, and had successfully convinced the department to change its reimbursement policies and codify existing expectations, making conference travel accessible to under-resourced students while eliminating the need to be "in the know" in order to navigate departmental policies

To increase access to research opportunities, I co-founded the department's ongoing and successful series of *research night* events, which are designed as a low-pressure way for graduate students to show their work to interested undergrads. This event took steps to center inclusion, such as collecting undergraduate attendee emails, and explicitly reaching out to offer those undergrads help navigating research opportunities. This design reduced the intimidation factor for undergraduates, many of whom—especially under-represented minorities—do not feel "permission" to cold email for opportunities [1].

Efforts within the Field As I began engaging with the research community outside of Cornell CS, I benefitted existing structures of mentorship—like the SOSP mentorship program and Programming Languages Mentoring Workshop (PLMW)—which helped ensure that I found my cohorts and was able to integrate into the field. As I gained seniority in the field, I was able to serve as a mentor in my own right, both during conferences (via PLMW) and via the globe-spanning SIGPLAN-M long-term mentoring program. These experiences granted me a window into the acute needs of students, nearly all women and under-represented minorities, whose relationships with their advisors had evolved into an unhealthy state and whose continued progress was at risk. Colored by these experiences, I became a founding member of the Computing Connections Fellowship[1] (CCF) selection committee. This organization aids students who need to change advisors, by both helping these students find new advisors at other universities and by providing initial funding to the student. Through the Herculean efforts of its president Talia Ringer, the CCF has secured funding, launched, and has already issued its first fellowship to a student in need. Through the CCF, we are addressing a thorny issue which disproportionately drives women and under-represented minorities out of our field; we hope to patch one of the many leaks in the "leaky pipeline" of academia and increase diversity as a result.

[1] `https://computingconnections.org/`

Outreach I believe that it is essential to also address issues of inequity outside the ivory tower. As a teacher and academic, I have focused my efforts on ensuring equity of access to STEM education, by showing low-income children and middle-school girls that computer science is a fun, approachable topic for everyone—not just the classic caricature of the neckbearded basement-dwelling hacker.

With a team of three PhD students, I taught a weekly hour-long course on how to "think like a coder" to third-grade students at the Belle Sherman elementary school in Ithaca, NY. In building and running this course, we turned to the expertise of the students' teachers and existing, published curriculum for programming aimed at students of this age group, put out by code.org. Our class prompted engagement and excitement from the students beyond the teachers' expectations; one non-verbal student even volunteered to show off her block-building code assignment, the first time this student had volunteered for anything that academic year.

At Cornell, I was part of a small team of PhD students that built and led "Googling with paper airplanes" an afternoon workshop for middle school girls which explained the basics of computer networking via paper airplanes. This workshop proved popular, and has been offered every year since as part of Cornell's broader "expanding your horizons" weekend of workshops for middle school girls.

Looking Ahead I am excited by the increased opportunities to impact diversity that come with a faculty role, whether it be in recruiting a diverse lab group, ensuring equity in my instruction, or continuing to make an impact in my department and beyond. In my first few years as faculty, my focus would be on bringing versions of the successful programs I have managed in the past to my new university home, while simultaneously learning and celebrating the initiatives already underway at that school.

Ultimately, each of these contributions is a small part of the larger puzzle of increasing diversity, equity, and inclusion in the academy. I am encouraged by the progress I have seen even in the course of my time at graduate school, and remain optimistic that, by working together, we can achieve the just society for which we all strive.

References

[1] Kalwant Bhopal. "Academics of colour in elite universities in the UK and the USA: the 'unspoken system of exclusion'". In: *Studies in Higher Education* 47.11 (2022), pp. 2127–2137. DOI: 10.1080/03075079.2021.2020746. eprint: https://doi.org/10.1080/03075079.2021.2020746. URL: https://doi.org/10.1080/03075079.2021.2020746.

[2] Social Sciences Feminist Network Research Interest Group. "The Burden of Invisible Work in Academia: Social Inequalities and Time Use in Five University Departments". In: *Humboldt Journal of Social Relations* 39 (2017), pp. 228–245. ISSN: 01604341. URL: http://www.jstor.org/stable/90007882 (visited on 11/22/2022).

[3] Vivian Hunt et al. *Diversity wins*. Tech. rep. McKinsey, 2020.