



January 21, 2025

Perspectives of Stanford Students and Employees with a Disability

# ENGR110/210

## Perspectives in Assistive Technology



Auston Stamm



Lina Hilal



David C. Davis



Emily Ocasio



Max Ahlquist

# Work with Diligence

- Time is your team's most precious resource
- 6 weeks of class left to work on your projects
- Mid-term presentations in 3.5 weeks! - **Week 6**



# Class Length

- Class ends at 5:50pm
- Instructor & Guest Speakers available after class
- Classroom open after class for team meetings and meetings with Instructor



# Students working on a Team Project



- Meet with team members
- Decide on a cool team name
- Connect with your project suggestor
- Understand the problem with your project suggestor
- Search the web for information on the user group, disability condition, existing products / solutions
- Schedule weekly updates alternating between in-person meetings and emailed progress reports with photos
- **Sign up for PRL Safety Orientation**
- Do not hesitate to ask questions



# Students working on an Individual Project



- Decide on a topic - to be approved
  - Assume the identity of an Investigative Reporter
- Schedule weekly updates alternating between in-person meetings and emailed progress reports with photos
- Do not hesitate to ask questions





# Students not working on a project

- Attend and reflect on class sessions
- Do not hesitate to ask questions



# Attendance Sheet, Evaluation Form, and Meet with Dave Signup



For all students:

- Sign Attendance Sheet - important to verify your attendance
- Sign up to meet with Dave (Zoom or in-person) for lecture makeup and project update discussions



For everyone:

- Fill out Class Session Evaluation Form - this provides feedback to guest lecturer



# Project Purchases



- **PRL** - Account created for ENGR110/210 students working on Team Projects
- **Online** - Brittany will order for you (Amazon), pick up at Front Desk with Loran
- **Reimbursement** - Save receipts





# Hot Dog

- Is a hot dog in a bun a sandwich?

Y

N = 90%

- What if the “bun hinge” is broken?

Y = 52%

N = 41%

?

- N = 29



# How we judge others

- religion
- gender
- gender identity
- skin color
- appearance: glasses, hair style
- clothing & shoes
- anatomy: height, weight, nose, eye color
- university attended
- year in school
- major
- dorm residence
- political views & affiliation
- sport team fan
- race

- ▶ disability
- ▶ age
- ▶ speech / accent
- ▶ medical status
- ▶ immigration status
- ▶ employment status
- ▶ fame / notoriety / celebrity status
- ▶ criminal record
- ▶ driving record
- ▶ place of residence
- ▶ athleticism
- ▶ record of achievement, intelligence
- ▶ material possessions: car, house, phone
- ▶ vaccination status



The course instructor judges your project effort including presentations and reports

# Martin Luther King Jr.

How might the teachings of Dr Martin Luther King Jr. relate to people with disabilities and older adults and Assistive Technology?

“I have a dream that **my four little** children will one day live in a nation where they will **not be judged by the color of their skin** but by the **content of their character.**”



# Martin Luther King Jr.

How might the teachings of Dr Martin Luther King Jr. relate to people with disabilities and older adults and Assistive Technology?

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*Disability and advanced age do not represent weaknesses of character.*





# Social Model - Help the Able Bodied



Attitudes  
Infrastructure  
Exclusion



[Play  
video](#)

Thursday, January 23rd



*Brain-Computer Interfaces for Communication*

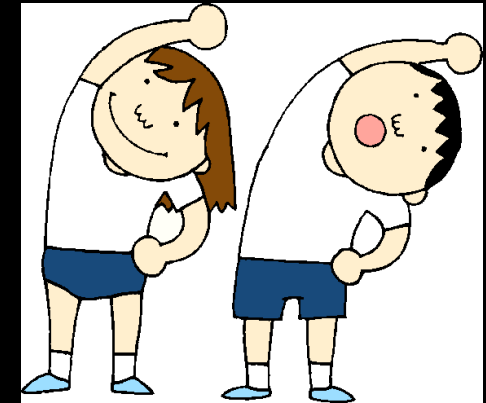
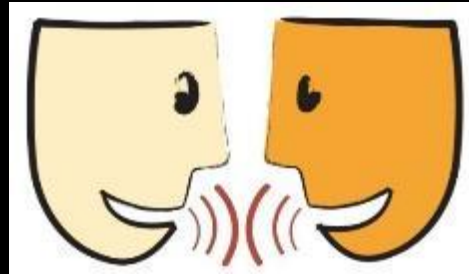
Erin Michelle Kunz - PhD Candidate

Stanford - Neural Prosthetics Translational Laboratory



# Break Activities

- Attendance sheet
- Stand up and stretch
- Take a bio-break
- Text message
- Web-surf
- Respond to email
- Talk with classmates
- Reflect on what was presented in class





# SOCIAL MEDIA BREAK



# Today

## Perspectives of Stanford Students and Employees with a Disability



Auston Stamm



Lina Hilal



David C. Davis



Emily Ocasio



Max Ahlquist



# Auston Stamm



Auston Stamm is the Digital Accessibility Instructional Specialist for Stanford's Office of Digital Accessibility. Auston was born with mild cerebral palsy, prosopagnosia (face blindness), and ADHD. Auston struggled in public school until his mother advocated for him to attend Westmark School. Westmark adapted the learning environment to his strengths. Auston is currently working on a doctorate in educational technology from Boise State University and helping Stanford create accessible instructional materials.

# My Story

- I was born with mild cerebral palsy, prosopagnosia or face blindness and ADHD
- I went to public school thru 4<sup>th</sup> grade and my teachers struggled to understand how to support my learning
  - Assignments were not modified
- I started attending Westmark in 5<sup>th</sup> grade and they embraced adapting and modifying assignments to each student's strengths
  - Provided a keyboard for note taking and typing lessons
  - Learned how to use Final Cut Pro to make movies



# The Invisible Ferrari



# Department of Rehabilitation

- My Mom advocated on behalf with the DOR
- I received funding to get my master's degree in occupational therapy
- I was given equipment including a standing desk, ergonomic monitor stand, and trackball mouse
- I have used this equipment throughout my professional career

# Working at Stanford

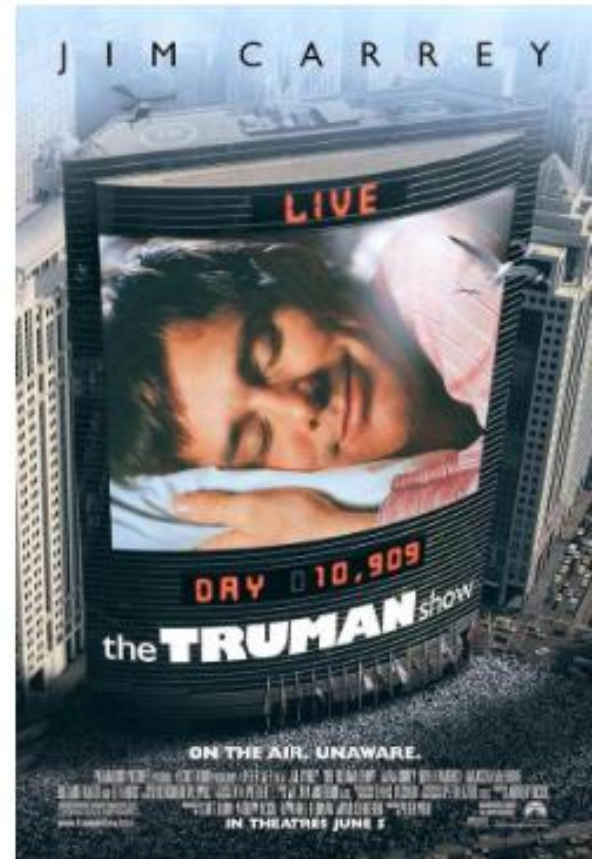
- I find listening to jazz music and soundscapes helps me focus
- I use a Pomodoro tracking app on my phone
- Noise canceling headphones
- I like to move around and use my standing desk a lot
- I use a GPS to help me get everywhere
- I ask people their names more frequently and enjoy Zoom meetings

# Be Your Own Advocate

- I learned that I needed to introduce myself to each professor
  - Talk about my strengths and weaknesses
- I had to use the campus disability office to help me when I encountered friction
- Most professors were very supportive and wanted to create an environment where I could succeed

# Truman Show

- I didn't learn I had cerebral palsy until my last year of high school
- I was told I had a visual processing disorder and dysgraphia
- I made the all-star team for basketball in the Pacific Palisades league
- I played despite muscle cramps and difficulty coordinating some movements







# Lina Hilal



Lina Hilal is a sophomore studying design. She is a peer facilitator for the Office for Inclusion, Belonging, and Intergroup Communication as well as the head of social justice for the Muslim Student Union on campus. Outside of academics, she enjoys reading comic books, sketching, and listening to music. She has been chronically ill for the past decade.





# Emily Madison Ocasio



Emily Ocasio is a sophomore studying data science. On campus, she is the ASSU's director of disability advocacy, the executive representative for the Vaden Student Health Advisory Committee, a co-founder of the DisGo Student Advocacy Group and a consultant for SMG. Outside of school, you can find her playing with her 14 year old rabbit, eating her family's Puerto Rican food, or making handmade merch. Emily has multiple chronic illnesses.

# I'M EMILY OCASIO!



- Director of Disability Advocacy (ASSU)
- Vaden Student Health Advisory Committee (VSHAC)
- Stanford Marketing Group (SMG) Consultant
- Co-Founder of DisGo Advocacy Group

# My disability story...

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- 2019-2020: School entirely online
- 2021 School in person, cannot function well & begin seeing doctors.



# My disability story...

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Symptoms:

- **Uncontrollable sleep & chronic fatigue**
- Chronic pain (ankles, feet, hips, other joints)
- Fainting
- Light headedness when standing
- Heart racing (tachycardia) with small movements
- GI issues (throwing up daily)
- Migraines & headaches
- Very de-conditioned
- Joint & face swelling
- Very sensitive to any exercise, cold, lack of sleep, etc.



# 2022 Received diagnosis...

## POTS:

Postural orthostatic  
tachycardia syndrome

what is it?



POTS is a malfunction of the autonomic nervous system, which controls such as heart rate, blood pressure, digestion, breathing, blinking and urination.



30%

OF PATIENTS HAD TO  
CUT BACK OR CEASE  
DOING THINGS THEY  
ENJOYED

43%

OF PATIENTS  
HAVE  
TRAVELLED  
MORE THAN  
100 MILES  
FROM HOME  
FOR POTS  
MEDICAL CARE



### FREQUENT SYMPTOMS:

- fast heart rate
- nausea
- blood pressure issues
- profound fatigue
- gastrointestinal issues,
- frequent, almost constant lightheadedness

25%

OF POTS PATIENTS ARE SO **disabled**  
THEY **cannot work** OR ATTEND  
SCHOOL.

@FINDYOUROWNHOPE

## POTS & Hypersomnia

SYMPTOMS	NARCOLEPSY TYPE 1	NARCOLEPSY TYPE 2	IDIOPATHIC HYPERSONMIA
Excessive Daytime Sleepiness (EDS)	✓	✓	✓
Sleep Paralysis and Hallucinations	✓	Sometimes	Occasionally
Cataplexy	✓	✗	✗
Difficulty Staying Asleep During the Night	✓	Sometimes	✗
Refreshing (Restorative) Naps	✓	Sometimes	Occasionally
Sleep Drunkenness	Occasionally	Sometimes	✓

# Current accommodations

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- Life style changes!!
- Electric bike
- Car
- Ground floor room
- Support from friends



# Current accommodations

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- Life style changes!!
- Electric bike
- Car
- Ground floor room
- Support from friends

## Frequent struggles:

- Disability parking is blocked
- Campus not car accessible
- Activities having physical component
- "Oh we will just walk the mile"





# Stanford Disability Golf Cart Service (DisGo) Recommendations

## Current design and issues

- A **door-to-door model** where users preschedule specific rides.
- Requires scheduling 24+ hours in advance.
- Users struggle with committing to prescheduled rides.
- **100% of interviewed users complain** of lateness and/or being left stranded.
- Scheduling app is inaccessible to visually impaired users.
- No data is currently being collected on ride completion.

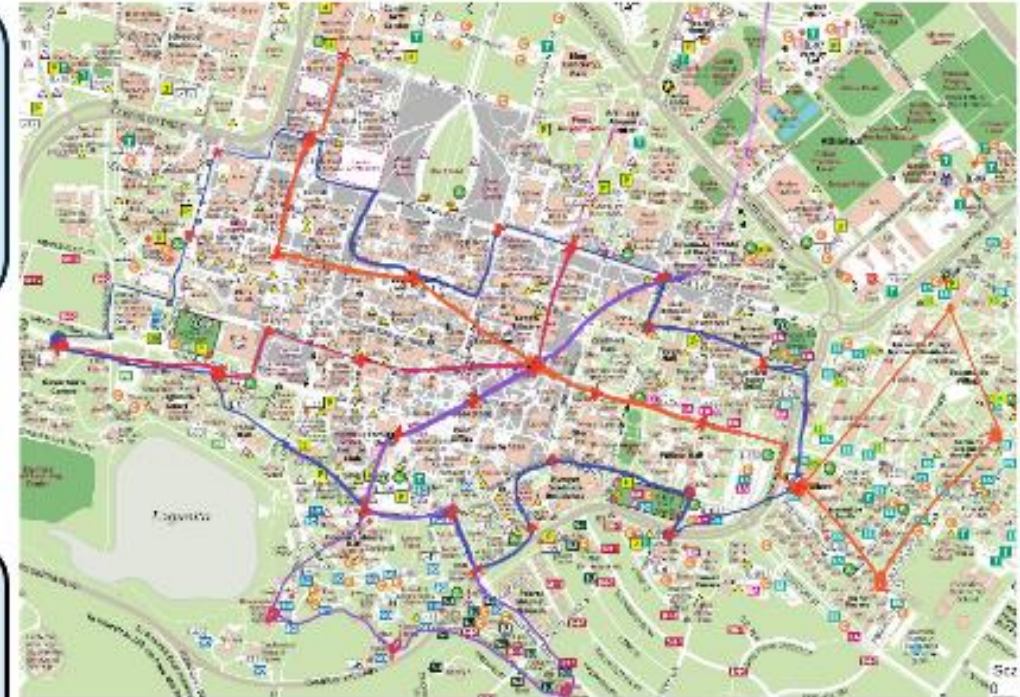
## Recommended solution: Transition to **shuttle service model**

### *Shuttle Design*

- **Wheel and spoke model**, with hub for transfers in Meyer Green.
- 18 drivers needed for < **15 minute** wait time.
- # drivers can be reduced by incorporating existing Marguerite routes.
- Maximum of **40 minutes** between any 2 points on campus.

### *Benefits for users*

- Flexibility and independence by not requiring pre-scheduled rides.
- Significantly **reduces the need for resource-intensive door-to-door service model**.
- Transportation in short-notice circumstances (ex. pain flare ups, weather that prevents use of other mobility aids).
- Access to central areas of campus that are not accessible by the Marguerite.
- Stops **within an 1/8 mile** of all important central locations.



Proposed shuttle service map

# Looking for support!

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- disabled voices, DisGo users, allies!
- data scientists
- coders (website / app design)
- writers, graphic designers, etc.

# Quick fixes for you!

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- Wear a mask when you are sick & let people know.
- Make sitting down less awkward!
- Combat OAE 'faker' mentality.
- Don't lock your bikes on handrails or non-bike parking spaces.
- Don't **hog** disability services (bathrooms, parking spaces).

**Thank you :)**

**Questions?**





# Max Ahlquist



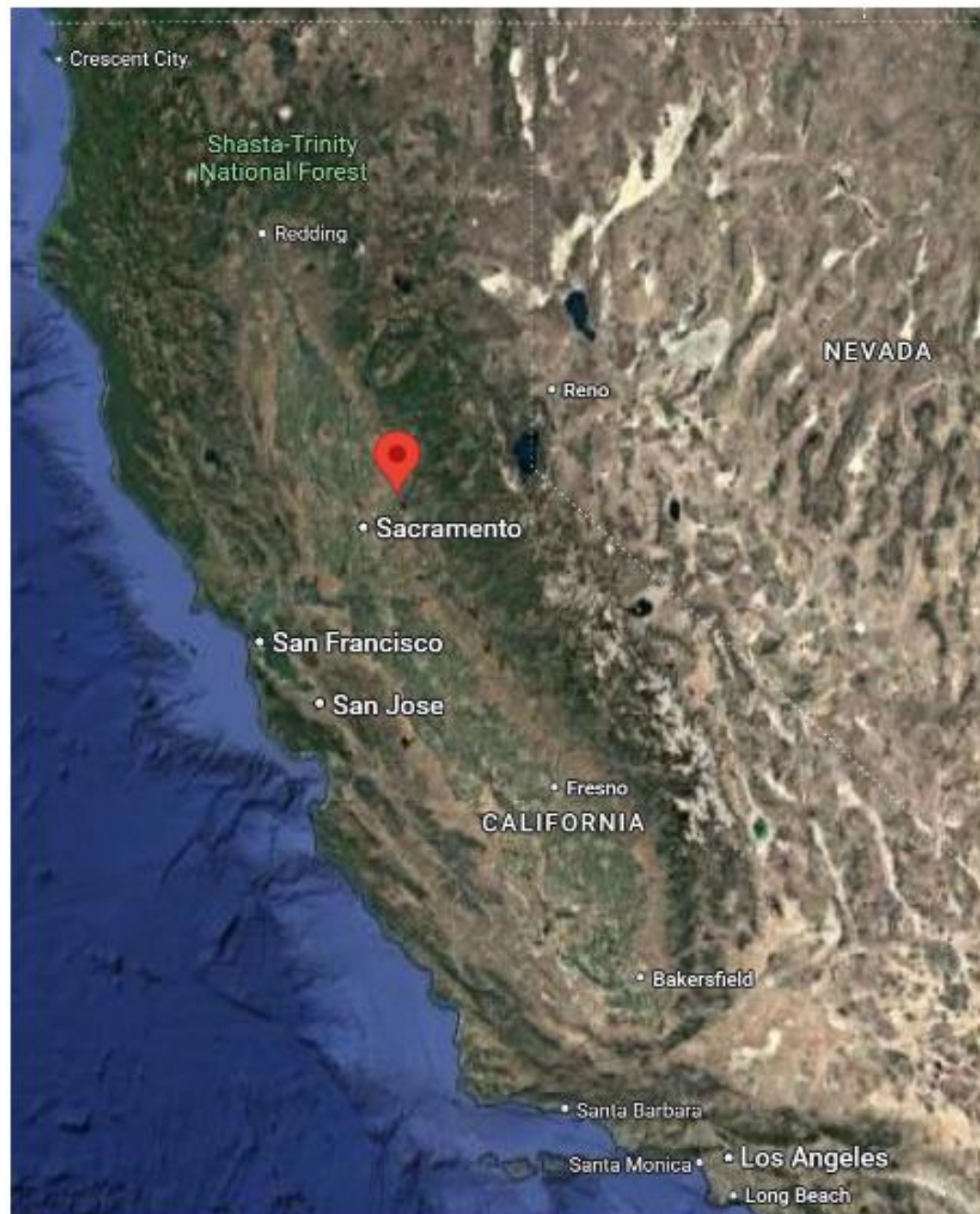
Max Ahlquist is a BS-ME and current CS coterm student. He suffered a spinal cord injury 5.5 years ago which has impaired his mobility throughout his body. He loves people and often counsels young mechanical engineers on the best way to fill out their program sheet. When not studying, he can be found sharing meals at Lakeside Dining, spending time with friends in Reformed University Fellowship, and playing wheelchair pickleball.

# Spinal Cord Injury

Max Ahlquist



ME





ME



# Why Stanford?

Craig Hospital

+ geography

Now:

BSME, MSCS

Future

PhD (Rice) in Biomechanics of human gait and neurological control





# My Injury - Cervical SCI

- Nerve impairment to body
  - Muscle movement
  - Sensation
  - Bowel and Bladder control

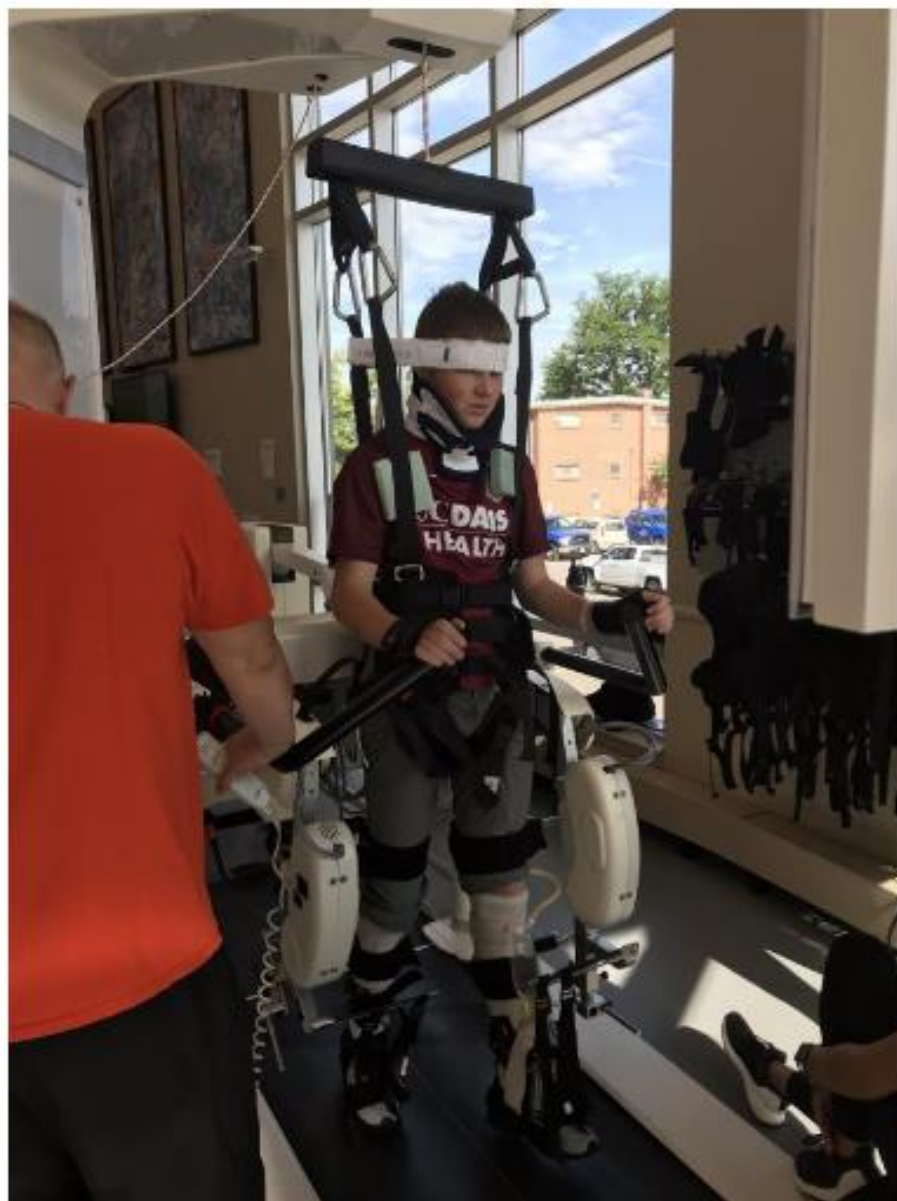


# My Injury - SCI





# My Injury - SCI

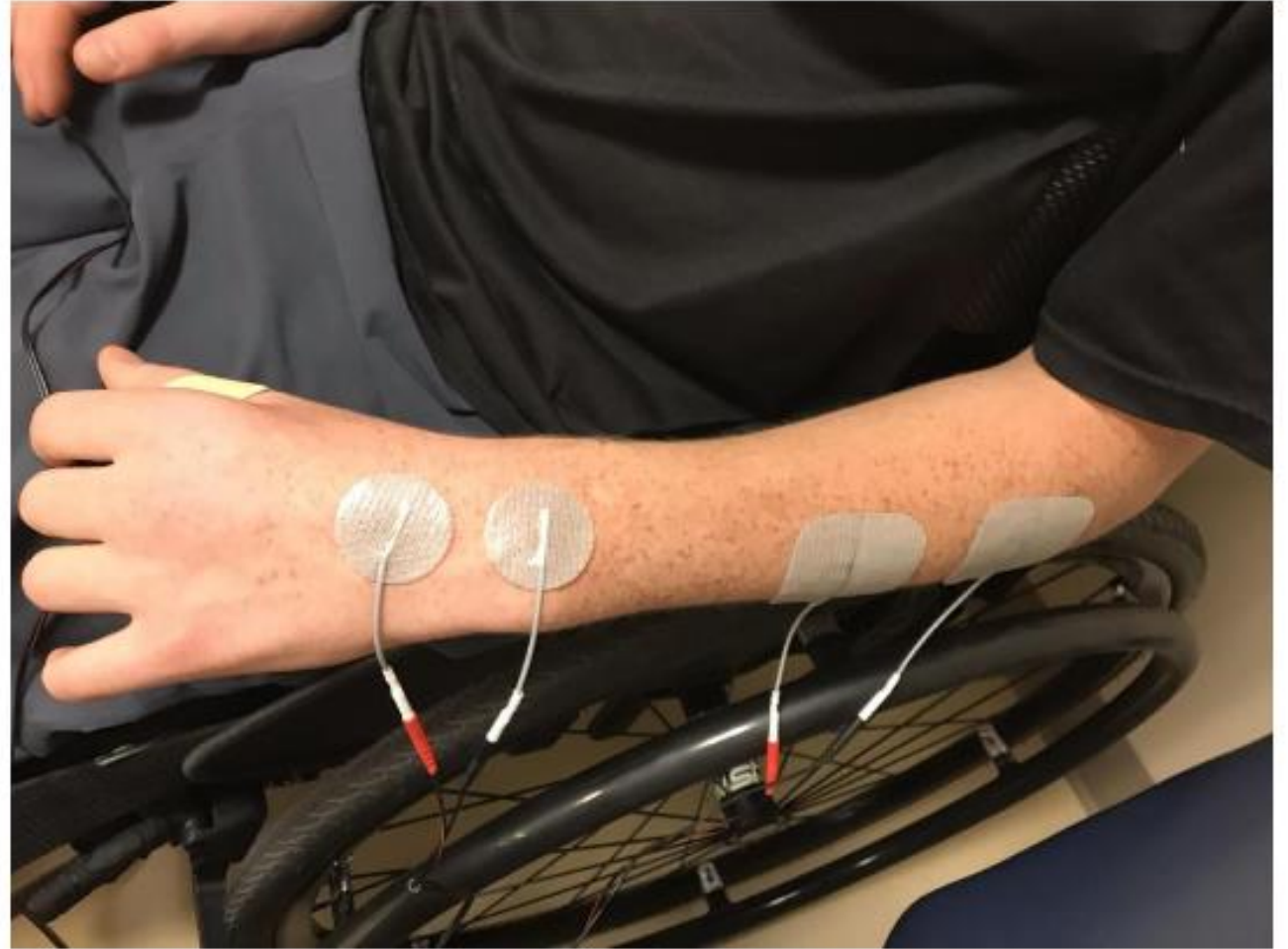


# My Injury - SCI





# My Injury - SCI





# Activities Now

Different



# Technology

Scooter

Keyboard (voice text)

Hiking poles

AFOs, Bioness





# Resources from Stanford

Wheelchair storage

OAE

Flatness!

# Challenges

When I'm Sick (or unwell)

Dining Halls

Scooter stories

Sloped pickleball courts

Stories on blending in and mobility devices

I'm really blessed!

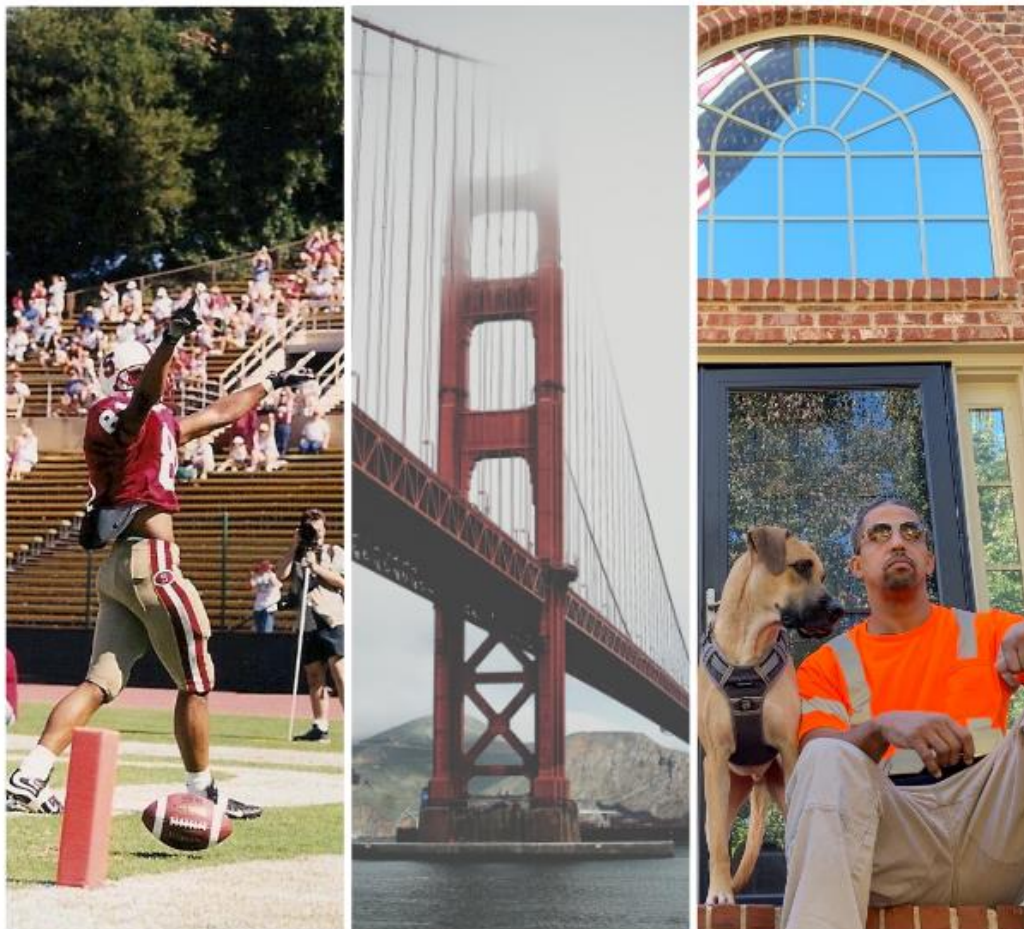




# David C. Davis



David Davis, a former varsity football player (1997-2000), is the founder and CEO of The Black & Gold Athletics Club Inc., a 501(c)(3) organization dedicated to supporting student-athletes in Syracuse, NY, and Atlanta, GA. An Army veteran and advocate for resilience, David has lived with service-connected disabilities for over a decade. He currently serves as the primary caregiver for an elderly disabled family member. A proud father of two, David also humorously claims the title of the “Tiger Woods” of putt-putt golf.



# Perspectives of Stanford Students & Faculty with a Disability

January 21, 2025

**DAVID DAVIS**

[ddavis@stanford.edu](mailto:ddavis@stanford.edu)



## Before we begin...

- Honored and fortunate to be here
- I don't have a lot of time
- Absent from academia for 10+ years
- Please SIT UP, PAY ATTENTION, & PARTICIPATE!
- What does being disabled at Stanford look like? LOOK LEFT & RIGHT
- How do I navigate this experience with the resources available?







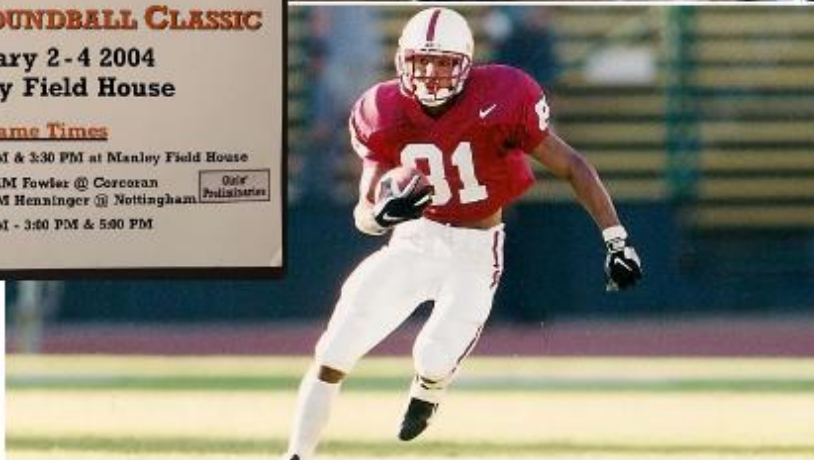
**MAYORS ROUND BALL CLASSIC**

January 2 - 4 2004  
Manley Field House

Game Times

Friday Jan 2	1:30 PM & 3:30 PM at Manley Field House
Saturday Jan 3	11:30 AM Fowler @ Covcoran 3:30 PM Henninger @ Nottingham
Sunday Jan 4	1:00 PM - 3:00 PM & 5:00 PM

Only Preliminaries



## Intro

Please stand (unless you cannot.)

You can sit if you:

- You are a PwD
- You have fired an anti-tank missile at another human
- You have been cheered by more than 100k people
- You struggle with ADLs
- You have a mother or father or both







## Disabilities in my life

- Developmental
- Physical (Knees, ankle, wrist, jaw, hand, eyes)
- Mental/Emotional

**My mind still thinks I'm  
25.  
My body thinks my  
mind is an idiot.**





## Challenges



- People (Military; Civilian; Professional; Personal)
- Places (Geographic; Accessibility)
- Things (Objects & Policy)
- Life be Life'n & The War Within
- Battling stigma/Being brave



VS





**The Stroke (Medullary)**



**The Accident a.k.a.  
DON'T TEXT &  
DRIVE**



**Mom a.k.a. Big G**



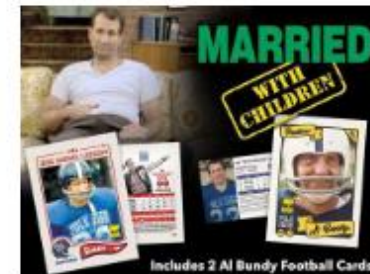




## Why attend..



- Football Scholarship
- CRUSHIN' on Dominique Dawes
- For my children Taj & King
- My health (P.O.M.E. so I changed it)
- Legacy & Contribution
- Be the best me
- It's STANFORD! and I'm a #nerd#dafuq?



So nice I did it Thrice 🤓



## Academic & Career Goals

- Finish research
- Produce new work product and add to public discourse
- Inspire, advise, and mentor
- Expand the reach and resources of my 501(c)(3) charitable organization:  
The Black & Gold Athletics Club [www.thebgac.org](http://www.thebgac.org)
- Diploma





## Stanford Resources do/don't address needs

- YOU! (Students, Faculty, Staff, and Alumni)
- The Office of Military Affiliated Communities (OMAC)
- The Office of Accessible Education (OAE)
  - Academic Accommodations
  - Housing Accommodations
  - Assistive Technology - Text to speech; Note-taking; A/V recording
  - ADA Compliant
- Hume Center for Writing and Speaking



## Assistive technology I employ to be a successful student



- a. Car (equipped with specific technology)
- b. Mobile device & tablet
- c. Eye protection
- d. Elevators and Service Animal
- e. Motorized transportation i.e. e-bike/scooter; golf cart
- f. Total knee replacement x2 in 5-10 years ("Range Anxiety")
- g. Digital recorder







Major Ronald Tucker started the Prisoners Assisting Warrier Services (PAWS) program at Joplin.



**Healing4Heroes™**  
*Not all wounds are visible*  
[www.healing4heroes.org](http://www.healing4heroes.org)  
 For quickest response  
 please apply online or email:  
[Info@healing4heroes.org](mailto:Info@healing4heroes.org)  
 Voicemail: 678-902-HERO(4376)  
 A 501(c)(3) Non-Profit Organization  
 @healing4heroes







# Questions?



*That's all Folks!*

