SYDNEY B. BAROVSKY

(425) 890 0820 http://www.sydneybarovsky.com/ SBAROVSKY@GMAIL.COM
https://github.com/sydneybroccoli/

EXPERIENCE

BARTENDER 07/2018 - 11/2019

SCAFFIDI'S HIDEOUT *(MILWAUKEE, WI)*

Neighborhood "dive bar" which also hosts a competitive pool league twice a year (Oct-Mar; May-Aug).

- ≫ Responsible for opening and operating the bar unassisted.
- ≫ Introduced 10+ new drinks to the "hidden" menu.
- ≫ Leveraged interpersonal skills while providing quality service.

TRAVEL/BACKPACKING 02/2018 - 05/2018

Self-guided, solo travel by means of backpacking around the world to countries in South East Asia (Thailand; Vietnam) and Europe (Spain; Portugal; Italy; Croatia; Slovenia; Serbia; Hungary; Czechia; Denmark; Netherlands; Ireland; Iceland).

- ≫ Cultivated language/communication skills (non)verbally to overcome cultural and language barriers with people in 14+ different countries around the world.
- ≫ Adapted to new, often unanticipated, situations with traveling alone.

GUEST SERVICES 09/2017 - 02/2018

IPIC THEATERS: GOLD GLASS CINEMAS *(GLENDALE, WI)*

Upscale cinema that specializes in the full, high-class, night out experience.

- ≫ Managed the front desk; assisted up to 500+ customers in-house and over the phone, daily.
- ≫ Trained each new Guest Services employee – 5 people.
- ≫ Resolved any/all customer service issues and complaints, involving managers as deemed necessary.

TEST DEVELOPMENT/RESEARCH ENGINEER

OFFICE OF SCIENCE AND ENGINEERING LABORATORIES | … | HUMAN DEVICE INTERACTION LAB

FOOD & DRUG ADMINISTRATION *(WHITE OAK, MD)*

Federal agency, of the US Department of Health and Human Services, which serves to promote and protect public health. The Human-Device Interaction group studies interactions between humans and existing/emerging medical devices/technologies with the goal of improving therapeutic, diagnostic, and rehabilitative outcomes.

PROJECT: Test method development for next-generation upper limb prosthetics; utilized quantitative data collection methods (motion capture; force plates; EMG; EEG) to better quantify movements of upper limb prosthetic users during simulated daily use across different generations of devices.

- ≫ Developed 2 testing protocols, utilizing different quantitative data collection systems:
  1: Modification and combination of existing testing systems (Box and Blocks; Jebsen-Taylor Hand Function Test) as to assess the dexterity of movements while completing tasks designed to simulate daily life; used in conjunction with motion capture (VICON) and force plate (Kistler) data to observe and assess specific movements (and their potential to cause future injury) across different users and different generations of devices.
  2: Designed a new test delivery method for an existing testing system (Box and Blocks atop a "Lazy Susan") as to allow for non-stop testing; used in conjunction with the electroencephalography (EEG) system to determine the amount of cognitive load (mental effort) required in completing tasks of varying difficulty.
- ≫ Organized the data collection and documentation protocols and maintained updated libraries (physical; electronic).
- ≫ Supported preliminary testing for 10+ subjects through: patient recruitment, equipment calibration and setup, data collection, documentation, data processing and analysis.

≫ Facilitated lab tours and other presentations/publications;
- Co-authored a publication in the *Journal of Hand Therapy* (March 2019).

RESEARCH ASSISTANT 01/2015 - 05/2015

TECH4POD | MARQUETTE UNIVERSITY *(MILWAUKEE, WI)*

Research group dedicated to developing new tools and technologies that would improve the quality of life for children with orthopaedic conditions (cerebral palsy, clubfoot, spina bifida, spinal cord injuries, brittle bone disease, etc).

PROJECT: Quantify the use of a x-ray fluoroscopy system for observing in vivo hindfoot motion during normal gait.

≫ Utilized Autoscoper software to extract data from X-Ray Fluoroscopy images of the (hind)foot during gait.
- 25+ trials with 100+ images/trial.

P R O J E C T S

SENIOR DESIGN | LOW-COST PATIENT AND HEALTHCARE RECORD SYSTEM

MARQUETTE UNIVERSITY *(MILWAUKEE, WI)*

PROJECT: Create hardware/software solutions for electronic health record systems for public health groups that can be deployed in remote locations in developing nations around the world.

≫ Researched existing solutions; evaluated feasibility of commercial programs to be used at low-cost.
≫ Integrated hardware (Raspberry Pi) as a base for the online system, which acted as a temporary server and router.

WATER USAGE SENSOR

MARQUETTE UNIVERSITY *(MILWAUKEE, WI)*

PROJECT: Build and implement a water usage sensor that is easily built into existing systems - promoting reduced water usage.

≫ Designed a PSoC-based system that utilized a variety of software and hardware components in order to read water flow/rate and output real-time, readable water usage and alert the user when a threshold was met.
≫ Constructed a prototype using appropriate software (PsoC) and hardware (water source, piping, liquid flow sensor, shower head, PSoC, pushbutton LED, mounting board, screen w/ plastic cover).
- LED is depressed to start the system. Liquid flow sensor outputs flow rate to PSoC. PSoC converts flow rate to gallons used. Once gallons used reached the preset threshold, the LED will light to indicate threshold is met.
- Iterated design to introduce a protected screen that would read out the flow rate and the number of gallons used.

≫ Alternative design plans utilized a BLE PSoC, with a corresponding (android) application where the user can [A] input threshold without needing access to PSoC code and [B] receive real-time data about usage.

MUSCLE EMG SENSOR

MARQUETTE UNIVERSITY *(MILWAUKEE, WI)*

PROJECT: Build a electromyography (EMG) audio amplifier system – translating EMG signal input into audio output.

≫ Utilized Multisim and Labview (w/ the Biomedical Toolkit) to design and confirm proper circuit operation.
≫ Built the corresponding breadboard circuitry according to design schematics.
- Operation required attaching a (customized construction) strain gauge to the exterior of the bicep; flexing of the bicep
- altered the pitch output from the audio speaker.

VOLUNTEER | HUNGER CLEAN-UP

A day of service which aims to build community relations by deploying groups to 50 different non-profit work sites (food banks, homeless shelters, neighborhood gardens, etc) to contribute to positive change in Milwaukee.

VOLUNTEER | SPECIAL OLYMPICS OF WASHINGTON

Local branch of a global organization that provides Olympic-style sporting opportunities to athletes with

intellectual disabilities.

VOLUNTEER | OUTDOORS FOR ALL

Group that aims to improve the quality of life for children and adults with disabilities by providing adaptive and therapeutic outdoor recreation opportunities.

PUBLICATIONS

Kontson, K.L., Wang, S., Barovsky, S., Bloomer, C., Wozniczka, L., Civillico, E.F. (March 2019). **Assessing kinematic variability during performance of Jebsen-Taylor Hand Function Test**. *Journal of Hand Therapy.*
doi: 10.1016/j.jht.2018.10.002

EDUCATION

COMPUTER PROGRAMMING: FULL STACK WEB DEVELOPER *03/2020*
LE WAGON *(BALI, INDONESIA)*
BATCH: #349

- ≫ 9-week intensive coding bootcamp learning HTML, CSS, Bootstrap, JavaScript, ES2015, SQL, git, GitHub, Heroku, and Ruby on Rails. Designed, implemented and shipped to production a clone of AirBNB and other Rails prototypes.
- ≫ My Github Profile: https://github.com/sydneybroccoli/

BACHELOR OF SCIENCE: BIOMEDICAL ENGINEERING *05/2017*
MARQUETTE UNIVERSITY *(MILWAUKEE, WI)*

- ≫ Bioelectrial Engineering/Electrical Engineering

ORGANIZATIONS

2013 - 2017 *Member* MARQUETTE WOMEN'S CLUB LACROSSE
2014 - 2017 *Member* ALPHA CHI OMEGA WOMEN'S FRATERNITY

TECHNICAL SKILLS

GENERAL	BASIC	ADVANCED
MS Office (Word; Excel; PPT; Publisher)	Computer Aided Design (CAD)	Multisim
Budgeting	Labview	Matlab
Statistical Analysis	Computing (C++; HTML; CSS; Ruby; Javascript; Linux)	Electronic Body Signals (EMG; EEG; etc)
Computing	Raspberry Pi	Autoscoper
Documentation	PSoC	VICON Motion Capture System
Research		Kistler Force Plates
Clinical Research		MS Visio
Data Acquisition		
Test Development		
Circuitry (Analog; Digital)		