

Julia Jenjezwa

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EDUCATION

MS, Engineering-Design Impact [2024]

Stanford University (CA, USA)

Coursework: *Advanced Design & Manufacturing, Scaling Technologies in Resource-Limited Settings, Graduate Design Research Methods, Programming Abstractions*

BS, Engineering Sciences-Mechanical [2016]

Yale University (CT, USA)

Senior Thesis: *"Optimizing 2D image to 3D model software (123D Catch) for use in mapping residual limb morphology in amputees."*

RECENT WORK EXPERIENCE

DIT Design Studio Manager

Rice 360 Institute for Global Health (DSM, TZ)

(06/2019-04/2022)

- × Managed founding & operation of 950+ member university maker space with roles including overseeing material procurement, machine maintenance, member outreach, external partnerships, & technical skills classes.
- × Coached 110+ student projects from the problem-identification phase through to construction of functional prototypes using human-centered design thinking methods.
- × Engaged & assisted university faculty with the incorporation of active learning & makerspace resources into existing curriculum.
- × Co-wrote the university's inaugural BS Biomedical Engineering curriculum.
- × Built & managed member information management system which has automated unique member ID card generation & collation of reporting data.
- × Established & maintained strategic partnerships through collaborative projects and memoranda of understanding with local NGOs, hospitals & innovation hubs.

Engineer I

Building Momentum (VA, USA)

(01/2018-02/2019)

- × Instructed 100+ active-duty US Marines, children & educators in product design fabrication techniques such as Computer-Aided Design, 3D printing, laser cutting, robotics, welding & Arduino programming.
- × Conducted product development and fabrication services for clients and designed devices such as autonomous robots, unmanned aerial vehicles, sensor units & museum exhibition replicas.
- × Built an entire data collection, analysis & visualization system that automated key processes.
- × Led curriculum redesign of flagship military technology training program.

SKILLS

FABRICATION

Vinyl cutting | MIG Welding | 3D printing | Laser-cutting | Woodwork | Metalwork | Plasma Cutting | Printed Circuit Board Design & Milling | Fiberglass & Gel application | Computer-Aided Design & Manufacturing | RF Communications (Xbee) | Milling | Turning | Brazing |

DESIGN

Rapid prototyping | Design Research | Figma | Mural

PROGRAMMING

Arduino | C++ | JavaScript | MATLAB

LANGUAGES

Native: English, Shona, Northern Ndebele | *Basic:* Chinese (Mandarin), Swahili

REPRESENTATIVE DESIGN PROJECTS

Mkono 1 - Independent Project (2021). Designed 3D model, electronics & initial code for Mkono-1, Tanzania's first myoelectric prosthetic arm. Device shortlisted for Royal Academy of Engineering Sciences Prize 2020.

Muhimbili National Hospital (2020). Led construction & validation of Tanzania's first UV Germicidal Irradiation Unit for disinfection (and reuse) of N-95 masks for Pediatric Oncology Ward. Pending regulatory verification.

Building Momentum (2018). Designed & built generator monitoring system prototype for Camp Lejeune. System included sensor units remotely communicated generator health information to central handheld unit.

Building Momentum (2018). Modelled & manufactured replicas of Spy Museum exhibit models with American Disability Act Standard Braille for improved accessibility of museum's exhibitions.

FieldReady (2017). Deployed to US Virgin Islands within 48 hours of hurricanes Irma & Maria. Created power hubs for remote island residents without electricity access by upcycling damaged solar panels.

FieldReady, (2016). Designed and 3D modelled emesis basin to be 3D printed & used by medical practitioners in disaster settings. Product was fabricated in Nepal & used to meet medical supply chain deficits.

Sanergy (2015). Fabricated & tested a 180L Human Waste Transfer & Consolidation system in conjunction with Humanitarian Innovation Fund (HIF) for rapid deployment in refugee camps to improve WASH outcomes.

CONFERENCE PRESENTATIONS

Taylor, A., Gobin, A., Mitaro, E., Moyo, W., Jenjezwa, J., Lodzanyama, H., Sanyahumbi, D., Mirabal, Y., Vweza, A., Chilipa, R. and Mafuta, M., [Reimaging Experiential Learning in Global Health: Implementation and Assessment of a Bidirectional, Virtual Exchange Program for Undergraduates](#). In CUGH 2021 Virtual Conference. CUGH.

Doshi, H., Duffy, T.C., Friedlaender, L., Honan, L. and Jenjezwa, J., 2016. [Creative Collaborations with Art, Music and Engineering: Improving the Perceptual Abilities of Novice Clinician](#). Yale Tech Summit.

Brooks J, Doshi H, Jameson C, Jenjezwa J and Thunell C, [BeatBox: A Novel Device for More Realistic Pulse Simulation](#), University of Minnesota Design of Medical Devices Conference - Student Design Showcase

SPEAKING & MENTORSHIP

[Innovation Week Tanzania 2021](#) | SPEAKER / PANELIST | Rethinking Development in the 21st Century: Making in Tanzania - Makerspaces as the cornerstone of the innovation ecosystem

[VentureWell Open Conference 2021](#) | SPEAKER/CO-FACILITATOR | Impactful Events Programming Inside of Makerspaces that Support Education

[Makerfaire 2020](#) | SPEAKER | Dar es Salaam's Response to COVID-19: Locally distributed 3D Printing Network

Dar es Salaam Institute of Technology (DIT) Faculty Workshop 2020 | MAIN FACILITATOR | Active learning in Engineering Education

UNDP Thinker's Campus Series 3 2020 | SPEAKER | Using 3D Printing in the Fight against COVID-19

[ABEC Design Competition 2019](#) | MENTOR

Malawi Innovators Design Competition 2019 | JUDGE