Titus Ebbecke

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Würzburg, Germany

Research Interests

Human-Computer-Interaction, Robotics, Applied Machine Learning, Generative Art, Data Visualization

Education

- **University of California, Berkeley (Candidate)** — Berkeley, USA
  Master of Design (Program delayed due to COVID) – MDes Distinguished Scholar — *2021 – 2022 (expected)*

- **University of Applied Sciences Würzburg-Schweinfurt** — Würzburg, Germany
  Bachelor of Arts in Design – With Distinction; GPA: 3.8/4.0 — *2015 – 2019*

Relevant Experience

- **Helmholtz Institute for RNA-based Infection Research** — Würzburg, Germany
  Design Specialist – Integrative Informatics for Infection Biology — *March 2020 - Present*

  Developing applications designed to accelerate the discovery & analysis of RNA in pathogens. Improving analysis of large datasets (RNA-Seq, Grad-Seq) with *Python (Pandas, NumPy, Flask), Vue.js, MongoDB, deck.gl.* Developing WebGL 3D & 2D heatmap. Developing & maintaining CI/CD *(GitHub Actions, Kubernetes).*

- **Nimble Spaces, Inc.** — Berkeley, USA
  Co-Founder — *April 2020 - Present*

  Co-founded Nimble Spaces after winning InnoDays hackathon and receiving $10,000 initial Investment from EDF Innovation Lab. Currently in Berkeley's 'SkyDeck' Incubator. Already deployed 'Nimble parklet' product to support COVID-19-affected restaurants in Oakland.

- **KUKA Robotics AG** — Augsburg, Germany
  Bachelor Student — *June 2019 - July 2019*

  Developed raster-image to CNC-paths algorithm *(Python, OpenCV, KRL, NumPy).* Organized funds and a partnership with KUKA head of research to create my bachelor thesis consisting of an industrial robot painting GAN-generated artworks on canvas. Developed intuitive CLI-tool for demos at fairs *(bash).*

- **Volkswagen AG** — Berlin, Germany
  UI/UX Design Intern — *September 2017 - March 2018*

  Developed high-fidelity prototypes for a central app-concept serving the modern VW fleet in *Framer/CoffeeScript.* Prototypes were presented to board of directors. Prototyped chatbots & similar predictive assistants. Conceptualized & designed UX flows for a variety of projects. Created UI and corporate design guidelines.

- **Freelancer** — Germany
  UI/UX Designer, Web Developer, Cameraman — *2013 - Present*

  Designed & developed UIs and Frontends for a large variety of desktop and mobile applications with up to 20,000 users. Created several websites for clients. Directed/shot movies for advertisements/student films across Germany with team sizes of up to 25 people.

Awards & Distinctions

- **2020 Fast Company Linda Tischler Award**: 'SUPERvisor – Augmented Face Shields for COVID-19'
- **Berkeley SkyDeck Incubator (Hot Desk)**: 'Nimble Spaces' was awarded a place in Berkeley's Incubator.
  Acceptance rate: 5.3% (98 out of 1850)
- **Fast Company Innovation by Design Awards (Finalist)**: 'SUPERvisor – Augmented Face Shields for COVID-19'
- **MDes Distinguished Scholar Award**: $20,000 scholarship from UC Berkeley.
- **European Design Award (Finalist)**: 'Art(ificial) – An autonomous robot paints AI-generated art'
- **InnoDays Berkeley (Winner 'Implementation')**: 'ePark' now Nimble Spaces, Inc.

- **Jacob's Institute COVID-19 Challenge (Runner-Up)**: 'SUPERvisor – Augmented Face Shields for COVID-19'
- **A' Design Award (Bronze)**: 'Art(ificial) – Artistic Creativity as a Property of Human and Artificial Intelligence'
- **InnoDays Innsbruck (Winner 'Habitat')**: 'InnsPark' now Nimble Spaces, Inc.
- **London International Creative Competition (Shortlist in Installation Art)**: Bachelor Thesis: 'Art(ificial)'

Selected Coursework

- **Bachelor Thesis**
  Title: 'Artistic Creativity as a Property of Human and Artificial Intelligence'

  Autonomous industrial robot, painting AI-generated artworks without human supervision. Robot painted for >10 hours during a two day exhibition. Constructed 800 lbs movable concrete base & installed robot on it. Soldered wiring for various interfaces, developed robot client, Python server, & various scripts.

- **Interactive Media**
  Topic: 'Artificial Intelligence'

  Trained AI on generating novel artworks. Setup & benchmarked GANs and computing pipelines (VMs/Jupyter Notebooks). Dataset of 21,000 images, organized with PowerShell, optimized with custom face-detection-based image-cropper (OpenCV). Trained for >100 hours with NVIDIA V100 GPUs.

- **Tangible Interfaces**
  Topic: 'Climate Change'

  Created 4x2x3m interactive sculpture displaying change of north-polar ice cap over the past decade. Scraped NASA/NSIDC satellite data and interpolated it. Constructed tangible user interface to bring scientific methods & findings closer to 50-100 exhibition visitors.

Skills

- **Robotics**: KUKA Robot Language, Programming of KUKA robots (KRC 4 w. Ethernet, Profibus), WorkVisual
- **Programming**: Python (OpenCV, NumPy, Pandas), JavaScript (Vue.js), Unix Shell (bash), Git, HTML/CSS, Docker (Kubernetes), Rapid Prototyping w. Framer (CoffeeScript), MATLAB (Beginner), CI/CD (GitHub Actions)
- **Visual Design**: Adobe CC (10+ years experience in: Photoshop, After Effects, InDesign, Premiere, Illustrator), Xd, Sketch, Digital Illustration/ConceptArt
- **3D**: Cinema 4D, 3DS Max, AutoCAD, Photorealistic Rendering w. Corona & Vray & Quixel Megascans/Bridge/Mixer, Unity & Unreal Engine (Beginner)
- **Cinematography**: DaVinci Resolve, Operating Blackmagic Ursa 4K, -BMCC, -BMPC, Sony FS-Systems, Canon C-Series, 4K RAW Workflow & Color Grading
- **Other**: Soldering, Sewing