

DR TOM GOODMAN

Ph.D. BSc (Hons) SFHEA FBCS FRSA FBS

@ t.a.goodman@cs.bham.ac.uk
tagoodman

(+44) 7719 819 480

tauomicronmu

Birmingham, UK

https://tomg.io/

@tauomicronmu

EXPERIENCE

Research Fellow in Mathematical Modelling and Motion Capture

Institute of Digital Healthcare, WMG, University of Warwick

Nov 2022 – Ongoing

Coventry, UK

- Working on both the ARME Project <https://arme-project.co.uk/>, which seeks to build a VR practice tool for solo musicians to practice in simulated ensembles, and on a markerless motion capture project, assessing the efficacy of markerless techniques in healthcare interventions in contrast to current gold-standard (marker-based) techniques.
- Includes technical roles such as scientific research, modelling, data analysis, simulation, and paper writing/publishing, as well as non-technical roles including organisation of away days and journal club, team management, and community engagement.
- Additionally responsible for supervising undergraduate- and masters-level projects, interns (including coordinating the hiring process), and Research Assistants working on both projects.

Chief Executive Officer

HackTheMidlands CIC

March 2016 – Ongoing

Birmingham, UK

- Founded HackTheMidlands in 2016 (incorporating in 2018) - a creative marathon open to anyone, not just university students.
- Provides a unique environment for people to learn new skills, build innovative projects, and present their work to other attendees, and sponsors.
- Have since ran five iterations of the event, working with sponsors including BT, Bentley, TFWM, and IBM, and engaging thousands of participants over the years.
- Spearheaded the transition to online delivery in 2020 and 2021, allowing us to engage over 1100 participants globally.

COVID-19 Vaccination Programme Vaccinator

Dudley Group NHS Foundation Trust

March 2021 – Ongoing

Dudley, UK

- Responsible for reconstitution, drawing up, and administration of the AZ and Pfizer vaccines.
- Work as part of a multidisciplinary team of nurses, vaccinators, pharmacists, and marshals to provide patient-focused care, and deliver the vaccine safely and efficiently.
- Have also undertaken significant reading and CPD beyond my initial training (immunology, IPC, etc.) which feeds into some teaching in my WMG role.

ACHIEVEMENTS



Future Face of Technology and Innovation, 2020

Greater Birmingham Chamber of Commerce



Rising Star in Tech, 2019

Silicon Canal



The Great Achievement in EPS Award

EPS Awards 2020



EPS Westmere Scholar 2019/20

University of Birmingham



Senior Fellow, Higher Education Academy

In July 2020 I was awarded Senior Fellowship of the HEA, recognising in particular my work with HackTheMidlands and at the University around education and diversity. This makes me one of, if not *the* youngest to be a senior fellow.



Sponsorship Raised

Since 2016, I have raised over £130,723.38 for local events and initiatives, including HackTheMidlands, and the Women in Technology Conference - from sponsors including BT, Capital One, Arm, and IBM.

ADDITIONAL ROLES



Visiting Lecturer & Teaching Fellow

School of Computer Science, University of Birmingham



Trustee & Director

University of Birmingham Guild of Students



Committee Member

BCS Communications Committee



Executive Committee Member

Future Faces, Greater Birmingham Chamber of Commerce



Committee Member

Nominations Committee, The Royal Institution

Project Software Developer & Researcher

Majestic (Majestic.com)

📅 July 2018 – September 2018 📍 Birmingham, UK

- In the Summer of 2018, I was invited back to work at Majestic, working on researching potential new avenues for the business.
- Since then, my research has been expanded upon, and pivoted into a commercial product - the Majestic Monitor (<https://majesticmonitor.com/>)

Research Associate

School of Chemical Engineering, University of Birmingham

📅 June 2018 – May 2019 📍 Birmingham, UK

- Worked with researchers from the School of Chemical Engineering at the university to create an interactive interface for them to display their research into the trends of energy usage and CO2 emissions on campus to the public.
- Part of the university's efforts to reduce their carbon footprint by 20% by 2020, and has paved the way for future research and projects since.

Software Developer

Vanti

📅 July 2017 – August 2017 📍 Birmingham, UK

- A 3-month placement at Vanti - a company specialising in Audio-Visual integration and smart buildings. Working on mainly the internal services (Java, Docker, NodeJS & Thrift) and with AV equipment/setup.
- Developed three internal projects to help the company - a suite of slack bots, a check-in system and a 'mood service' to keep track of (and feed back) the current mood of the office.

Co-Chair & Inclusion Officer (*previously Secretary, Community Engagement Officer*)

BCS Birmingham Branch

📅 April 2016 – Ongoing 📍 Birmingham, UK

- Since 2016, I've worked with the BCS Birmingham Branch to raise awareness of the organisation, particularly amongst young people, and to support local events and initiatives.
- Coordinated running of monthly tech talks for the local community, and increased student audience.

Freelance Networking/Encoding Engineer

ESL UK

📅 November 2017 📍 London, UK

- Experience working as a freelance network/encoding engineer, having worked with ESL UK on the Clash Royale World Championships Finals at the Copperbox Arena at the Queen Elizabeth Olympic park in 2017.
- My role included initial network and encoding equipment setup, as well as working as part of a team that ensured that the stream was going out in 9 different languages to over 250,000 concurrent viewers.

EDUCATION

Ph.D. in Computer Science

University of Birmingham

📅 Oct 2018 – Mar 2022

Thesis title: Geometric Approaches to the Pitch Detection of Acoustic Musical Signals

B.Sc. Computer Science (Class I)

University of Birmingham

📅 Oct 2015 – July 2018

PUBLICATIONS

A Geometric Framework for the Pitch Detection of Acoustic Musical Signals

Tom Goodman, Karoline van Gemst, and Peter Tiño

📅 November 2020 (Accepted September 2021)

Journal of Mathematics and Music.
<https://doi.org/10.13140/RG.2.2.22366.05444>

Learn-Apply-Reinforce/Share Learning: Hackathons and CTFs as General Pedagogic Tools in Higher Education, and Their Applicability to Distance Learning

Tom Goodman and Andreea Ina Radu

📅 June 2020

SSRN Online Journal
<https://doi.org/10.2139/ssrn.3637823>

Real-Time Polyphonic Pitch Detection on Acoustic Musical Signals

Tom Goodman and Ian Batten

📅 December 2018

18th IEEE International Symposium on Signal Processing and Information Technology (ISSPIT)
<https://doi.org/10.1109/ISSPIT.2018.8642626>

The Academic Dress of the University of Birmingham

Tom Goodman

📅 July 2019

Submitted for Fellowship of the Burgon Society
<https://doi.org/10.13140/RG.2.2.31027.37922>