

Thomas Bochynek, PhD
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LinkedIn Profile

CURRICULUM VITAE

RESEARCH LEADERSHIP EXPERIENCE

- Postdoctoral Fellow, Physics** 07/2020 - ongoing
Emory University *Atlanta, GA, USA*
- Built state-of-the-art 3D scanner with processing and analysis algorithms
 - Increased operating speed and image resolution compared to commercial alternatives, enabled new research applications
 - Creating knowledge base and processes in newly founded research group, leading eight students in research projects
- Postdoctoral Fellow, Computer Science and Engineering** 07/2018 - 07/2020
Northwestern University *Evanston, IL, USA*
- Developed, built, and shipped custom X-ray CT scanner. Led team of five cross-functional researchers from industry and academia.
 - Product allows novel use cases in tropical rainforests, is in use in USA and Central America
 - Conducted field-test in Panama to study self-assembly in ants as model for swarm robots
- PhD, Computer Science (Computational and Collective Intelligence)** 09/2013 - 06/2017
Monash University *Melbourne, Australia*
Simulated swarm behaviour in ants, created CV/ML algorithms

OTHER RELEVANT EXPERIENCE

- Sessional Assistant Professor (Teaching), Computer Science** 02/2018 - 06/2018
Monash University *Melbourne, Australia*
Lectured and oversaw coding exercises for class "Artificial Intelligence, Artificial Life, and Digital Environments". Received praise for teaching quality: 94% student approval
- Postdoctoral Research Assistant, Biology** 10/2017 - 02/2018
Monash University *Melbourne, Australia*
Developed mathematical models for new perspective on an evolutionary process
- Research Assistant, SensiLab Innovation Lab** 06/2015 - 03/2017
Monash University *Melbourne, Australia*
Defined content for AR teaching app, advised SWE on implementation
- Research Assistant, Machine Learning Group** 06/2015 - 09/2016
Monash University *Melbourne, Australia*
Categorized medical publication content for the training of NLP algorithm

EDUCATION

- PhD, Computer Science** 09/2013 - 06/2017
Monash University *Melbourne, Australia*
Details listed above
- Dipl.Biol. (~BSc + MSc), Biology (Collective Behaviour)** 07/2004 - 10/2011
Ruhr-Universität Bochum *Bochum, Germany*

PROFESSIONAL PROJECTS

- Initiated research retreat to increase internal collaboration across campuses. Received \$50k internal funding, led ten PhD students in creating program. Event now held every two years
- Initiated three CS/robotics side-projects; started “Computational Swarm Intelligence” student journal club
- Created incentivized group of >10 student volunteers group to help with data extraction, optimized incentives vs. group output
- Conducted scientific outreach in high school science classes in US and Puerto Rico

AWARDS

- Competitive Leadership Fellowship, Northwestern U’ Center for Leadership. Developed framework for risk-taking
- Four competitive university + one CS industry PhD scholarship
- Two national and one state prize at Australian GovHack Hackathon for housing app. Team effort: contributed ideas, goals, code
- Three presentation awards at conferences/showcases

Total won funds: ~\$190,000

SKILLS

Leadership skills:

- Mentored 22 research student (PhD, MSc, BSc) projects in CS and Engineering
- Developed framework for managing risk-taking during Leadership Fellowship tenure
- Received coaching training through Northwestern U’s Kellogg School of Business

Programming languages (years experience):

- Python(10), Matlab(5), Mathematica(5), C++(5), Julia(2), Java(1), R(1)

Computational skills:

- ML and CV algorithm development
- Writing custom modelling frameworks (system- and individual-level)
- Conducting statistical analysis using Python/R

PERSONAL ACTIVITIES

Tech tinkerer and maker, avid runner and cyclist, group hiker and nature enthusiast, volunteer bicycle mechanic for not-for-profit organizations, Go (game) player and club organizer, book worm