# DOMINIC JOHN BENNETT

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Adept data scientist, software developer, bioinformatician, and researcher with a demonstrated history in industry and academia.

8+ years of experience in software development, statistics, data analysis, bioinformatics as well as technical writing and public speaking; able to work independently as well as in a team; worked as professional scrum master for global software company; proven track-record in academia with multiple first-/co-authored published scientific articles and open-source software packages; developer of own reproducible, analytical workflows; trained in the life sciences with first-hand experience with large "omic" datasets; proven ability to transition to new domains and learn new technologies and techniques.

### **Experience and Education**

#### 2020 - Present Cloud-native developer | Scrum master

Developer with a focus on implementation in networking and security for the 5G packet cloud core. Experience includes updating network interfaces to IPv6 and; developing a new golang-based security microservice. <u>Ericsson</u>, Gothenburg, Sweden.

Tech/skills C++, C, golang, docker, kubernetes, helm, postgreSQL, git, agile, CI, testing

#### 2019 - Present Software developer, consultant

<u>Layer10</u>, Gothenburg, Sweden

#### 2017 - 2019 Postdoctoral researcher in bioinformatics/biodiversity

Bioinformatician/developer. Developed a modular pipeline for automated phylogeny generation in R which resulted in 3 published software papers/packages. Additionally, worked alongside lab members on a range of tasks – plant genomics, environmental sequencing, biodiversity informatics – all resulting in co-authorships. <u>University of Gothenburg</u> & <u>Gothenburg Global Biodiversity Centre</u>, Sweden.

Tedn/skills R, python, git, CI, docker, bioinformatics, genomics, metagenomics, NGS, phylogenetics, biodiversity, technical writing, teaching, presenting

#### 2017 - 2019 Open-source code reviewer and contributor

R package reviewer and contributor for/to ROpenSci

#### 2013 - 2017 **PhD** in Evolutionary Biology

Researcher using species-level phylogenies to infer evolutionary history, resulted in 3 published papers and 1 published software package. Thesis "An appraisal of the Living Fossil Concept", <u>link</u>. Additionally, collaborations in bioinformatics and data analysis led to co-authorships. *Imperial College London & Zoological Society of London, U.K.* 

Tech/skills Data analysis and visualisation, statistics, simulation, bioinformatics, alignment, phylogenetics, taxonomy, R, C, python, git, CI, high-performance computing, technical writing, teaching, presenting

2015 - 2017	Online resources coordinator  Quantitative Ecology Special Interest Group, British Ecological Society.
Tech/skills	Web development, presenting
2012 - 2013	<b>Masters</b> in Genomics and Biodiversity Informatics, <i>Distinction</i> Thesis project on using large numbers of estimated phylogenies to determine impact of urbanisation on biodiversity across the globe. Work led to co-authorship on a Nature paper. <i>Imperial College London, U.K.</i>
Tech/skills	R, python, data analysis and visualisation, statistics, ecology, conservation biology, genomics, bioinformatics, phylogenetics, technical writing, teaching, presenting
2012	Text-mining research intern for the pharmaceutical industry  Nucleotide sequence discovery in scientific and legal texts. Linguamatics, Cambridge, U.K.
2008 - 2012	<b>BSc</b> in Biology with French for Science, <i>First Class Honours</i> Thesis project on metabolomics of years. <i>Imperial College London, U.K. &amp; Université Paris-Sud, France</i>
2010 - 2011	Researcher in population genetics Population genetics of fungus, Microbotryum. <i>Université Paris-Sud, Paris, France.</i>
2009	Conservation volunteer Field experience in rainforest with Operation Wallacea. Buton Island, Sulawesi, Indonesia.

## Skills and Knowledge

Computing R, python, golang, C++, C, ttcn, git, Docker, kubernetes, helm, shiny, apache spark, Jenkins, Travis-CI, AppVeyor, LINUX, UNIX, HPC facility, Google Cloud, design architecture, pipeline development, unit, signal-flow and functional testing

Bioinformatics Sequence homology and alignment, phylogenetics, GenBank, NGS, phylogenetics, taxonomy, systematics, natural language processing, fossil-calibration, genomics, metagenomics

Data analysis and visualisation, statistics, simulation, macro-ecological/evolutionary analysis, R analysis, technical writing, proofreading, teaching, presenting and public speaking, agile development

## First-Authored Publications

outsider: Install and run programs, outside of R, inside of R	2020	Bennett, D.J., Hettling, H., Silvestro, D. et al.	<u>JOSS</u>
How the Past Impacts the Future: Modelling the Performance of Evolutionarily Distinct Mammals through Time.	2019	Bennett, D.J., Sutton, M.D. & Turvey, S.T.	Phil. Trans. B.
Quantifying the living fossil concept	2018	Bennett, D.J., Sutton, M.D. & Turvey, S.T.	Palaeontologia Electronica
phylotaR: An automated pipeline for retrieving orthologous DNA sequences from GenBank in R	2018	Bennett, D.J., Hettling, H., Silvestro, D. et al.	<u>Life</u>
restez: Create and Query a Local Copy of GenBank in R.	2018	Bennett, D.J., Hettling, H., Silvestro, D. et al.	<u>JOSS</u>
Evolutionarily distinct "living fossils" require both lower speciation and lower extinction rates	2017	Bennett, D.J., Sutton, M.D. & Turvey, S.T.	Paleobiology

treeman: an R package for efficient and intuitive manipulation of phylogenetic trees

2017 Bennett, D.J., Sutton, M.D. & Turvey, S.T.

BMC research notes

Open-Source Software

outsider	Install and run programs, outside of R, inside of R	CRAN, ROpenSci	R
restez	Create and query a local copy of GenBank in R	CRAN, ROpenSci	R
phylotaR	An automated pipeline for retrieving orthologous DNA sequences from GenBank	CRAN, ROpenSci	R
treeman	Intuitive manipulation of phylogenetic trees in R	CRAN, GitHub	R, C
TNR	Resolution of taxonomic names in python	<u>PyPi, GitHub</u>	python
pG-lt	An automated pipeline for converting taxonomic names into phylogenetic trees	PyPi, GitHub	python

## Selected Presentations/Workshops

The Evolutionary Potential of 'Living Fossils'	2019	Royal Society, London, <u>link</u> .
Workshop: Automated Phylogenetics Pipeline	2019	University of Gothenburg/University of Aarhus, link
A supersmartR Way to an Automated Phylogenetics Pipeline	2018	Arnold Arboretum, Harvard University
Wikithon: Quantitative Ecology Documentation (QED)	2016	British Ecological Society Annual Meeting, Liverpool
The Evolutionary Potential of 'Living Fossils'	2015	Institute of Zoology Student Conference, London
Phylogenetic non-randomness in the responses of biodiversity to human impacts: a global analysis of local responses	2013	International Ecology Conference, London

## References

Mark D. Sutton Samuel T. Turvey

Former PhD supervisor Former PhD supervisor

Senior Lecturer in Palaeontology, Professor of Zoology,

Imperial College London Institute of Zoology, London

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