GABRIEL J. BENITEZ

Bioinformatics Research Scientist

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ABOUT ME

Industrious, enthusiastic & inquisitive, with a demonstrated experience in bioinformatics & diverse, multilingual education in healthcare and data sciences.

EXPERIENCE

Bioinformatics Research Scientist Sep 2021 – Present
Anthony Nolan Research Institute
- Development, optimisation, analysis, and Google cloud-based automation of NGS tools and pipelines for large-scale HLA sequencing and typing.

Researcher Apr 2021 – Jun 2021
Polygeia
- Communicating policy on public health issues in a small team environment for internally and externally commissioned projects.

Co-Camp Leader Jul 2017 – Aug 2020
All Special Kids
- Led teams of 15+ staff members, directed day programs for 30+ special needs campers, acted as a diplomatic point of liaison & expertise for external public communications.

Medical Engineering Intern Jun 2016 – Jul 2016
CERN
- Explored applications of particle physics in medical diagnosis & treatment of cancer via hadron therapy, LHC engineering of field quality, & beam instrumentation.

EDUCATION

MSc Bioinformatics Sep 2020 – Aug 2021
University of Edinburgh
- Graduated with distinction.

BSc Biomedical Sciences (Hons.) Sep 2017 - Aug 2020
University of Edinburgh
- Awarded a 2:1 classification from year 2 direct entry of a 4-year honours program.

International Baccalaureat Sep 2015 – May 2017
Institut International de Lancy
- Achieved 40 points (out of 45, top 10% worldwide).

SKILLS & TECHNOLOGIES

Python	Bash	Nextflow	R	Github	HTML
GCP	scRNA-seq	GWAS	Linux	PacBio	
NGS	Stats	Data Vis.	Pipeline Automation		

PROJECTS

Pipeline Development Jun 2021 – Present
Anthony Nolan Research Institute
- Developing and supporting high-throughput pipelines for long-read HLA data.
- Migrating and optimising pipelines to Nextflow and Google Cloud with Docker environments, ML and AI tools including DeepConsensus.

Genomic Analysis Sep 2021 – Present
Anthony Nolan Research Institute
- Development of variant calling assays, expansion of genetic markers for typing HLA and non-HLA genes.

Computational Modelling Jun 2021 – Present
MRC Institute of Genetics & Cancer
- Computational modelling of telomere dynamics in ageing, applied to the Lothian Birth Cohort & Generation Scotland datasets, as foundation for predictive healthcare tools.
- Interdisciplinary collaboration between Chandra, Marioni, and Schumacher lab groups.

Phylogenetic Profiling Feb 2021 – Mar 2021
University of Edinburgh
- Constructed taxonomic visualisations and genetic associations to infer phylogeny of lentiviral sequences & to predict cyanobacterial orthogroups.

Diff. Expression Analysis Jan 2020 – May 2020
MRC Institute of Genetics & Cancer
- scRNA-seq analysis of etoposide-induced senescent fibroblasts, using the novel deconvolution tool souporcell, data visualisation of differential gene expressions to identify heterogeneous cell subpopulations in ageing and cancer.
- Chandra lab group.

ACHIEVEMENTS

President | Social Secretary | Social Media Head
Edinburgh University Men's Lacrosse Club

Academic Family Leader | BioBuddies Volunteer
University of Edinburgh Peer Learning

Web-Radio Host
FreshAir Student Radio, Edinburgh University

Elements of AI Certificate
University of Helsinki & Reaktor

Suicide Prevention Training Certificate
Zero Suicide Alliance