SHIVAPRASAD PATIL

Associate Director Predictive AI & Bioinformatics @ AstraZeneca |
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Associate Director with **10+ years of experience** in **AI-driven drug discovery, multi-omics data integration**, and **precision medicine**. Expert in translating complex **genomic, clinical**, and **imaging** data into **actionable insights** across the **drug development pipeline**. Proven track record in **biomarker discovery, clinical trial analysis**, and **cross-functional team leadership. Published researcher** with expertise in **machine learning, computational biology,** and **regulatory compliance.**

EXPERIENCE

10/2024 - Present - Associate Director Predictive AI & Bioinformatics | AstraZeneca | Barcelona

- **Defined and drove** a predictive AI product roadmap to translate omics and high-content imaging data into novel mechanisms of action, safety insights, and target hypotheses for early drug discovery portfolios.
- **Led cross-functional initiatives** with computational biology, data science, toxicology, and project teams to build AI models that integrate bulk and spatial multi-omics with imaging to refine toxicology predictions and improve compound and target prioritisation.
- **Developed models to pinpoint predictive** morphological features from Cell Painting data, providing cost-effective, mechanistic safety insights and early readouts on efficacy/toxicity.
- **Designed and deployed models on global proteomics** datasets to reveal mechanistic drivers of response and toxicity, informing compound selection and portfolio strategy.
- **Collaborated with and presented** to senior scientists, clinicians, and leadership, translating complex AI and computational biology outputs into clear product value, go/no-go decisions, and roadmap adjustments.

07/2022 – 09/2024 - Computational Biologist - Human Genetics & Genomics | GSK | Heidelberg

- **Led analysis and integration** of clinical multi-omics (transcriptomics, auto-antibody arrays, single-cell, and proteomics) in SLE trials, generating biological insights and biomarker signatures that contributed to prioritisation of 2 new assets.
- **Developed translational signatures** to support indication expansion and model translatability, bridging preclinical and clinical data to inform target and biomarker strategy in drug development.
- **Applied bioinformatics and ML** to diverse clinical and non-clinical datasets to identify novel drug targets and biomarkers, working closely with disease biology and clinical teams.
- **Prepared and delivered** clear visualisations and presentations for non-experts in bioinformatics, enabling data-driven decision making across the research and development organisation.

06/2019 – 06/2022 - Bioinformatician | National Center for Radiation Research in Oncology - University Hospital Dresden

- **Co-designed and analysed studies** using preclinical models and human cohorts to establish biomarkers of target modulation, disease heterogeneity, progression, and treatment response, leading to discovery of 3 novel biomarkers for personalised oncology using ML models.
- **Worked closely with disease area experts** to translate a biomarker from in vivo preclinical models into clinical application, improving risk stratification and personalised therapy decisions.

- **Curated, standardised (including QC), and integrated** clinical and biological data from 10 cancer cohorts (>3000 patients) into analysis-ready formats, building pipelines that supported robust downstream computational analyses.

08/2017 – 09/2018 - Bioinformatics Research Associate | Katholieke Universiteit Leuven | Belgium

- **Analysed complex clinical omics datasets** to identify biomarkers for early liver fibrosis in a cohort of 200 patients, supporting early diagnosis and stratification efforts.
- **Developed >10 end-to-end bioinformatic workflows** in R and Python, from data ingestion and QC through to analysis and reporting, laying the groundwork for reproducible, pipeline-driven analysis.

2015 – 07/2017 - Bioinformatician | Institute of Genomics & Integrative Biology | New Delhi, India

- **Delivered a data analytics platform** for whole genome and exome sequencing as part of the GUARDIAN project, collaborating with >280 clinicians and 60 medical centers across India to discover novel variants in rare genetic diseases.
- **Worked closely with clinicians and wet-lab scientists** to define requirements, interpret results, and ensure computational tools were usable and impactful in real clinical and translational contexts.

EDUCATION

- **Doctor of Philosophy (PhD) | Biostatistics | Technical University Dresden | 2019-22.**
- **Integrated BS-MS | Indian Institute of Science Education and Research, India | 2010-15.**

SKILLS

- AI/ML for biomarker discovery & model evaluation.
- Multi-omics integration (genomics, transcriptomics, proteomics, imaging).
- Target identification & mechanistic inference
- Product strategy, roadmapping & feature prioritisation.
- Stakeholder alignment & decision-driving insights.
- Cross-functional collaboration & scientific communication.
- Familiarity with NGS, functional genomics & image-based assays.
- Computational biology workflows & reproducible pipelines.

AWARDS

- Helmholtz-Zentrum Dresden-Rossendorf Fellowship (2019).
- Franco-German University Scientific Mobility Grant (2019)
- Novo Nordisk Foundation Grant – MicrobLiver (2018).
- Finalist, SciGenom Research Foundation (2016).
- INSPIRE Fellowship, Department of Science & Technology India (2010–2015).

INTERESTS

- Fitness & Sports.
- Biographical Literature.
- Hiking.
- Creative writing.
- Medical Volunteering.

LANGUAGES: English, Hindi, Kannada, Marathi, German (basic), Spanish(basic), Punjabi.