



Who are we?

Afiniti is the world's leading applied artificial intelligence and advanced analytics provider. Afiniti Enterprise Behavioral Pairing™ uses artificial intelligence to identify subtle and valuable patterns of human interaction in order to pair individuals on the basis of behavior, leading to more successful interactions and measurable increases in enterprise profitability. Afiniti operates throughout the world and has measurably driven billions of dollars in incremental value for our clients.

Research Scientist

Purpose

Afiniti uses data science and operations research to enhance human interactions in large enterprises by efficiently pairing customers or tasks with company representatives. Our primary focus is improving contact center interactions for sales, service, retention, collections, and customer satisfaction in fields ranging from telecommunications to healthcare to banking to hospitality. To ensure we're delivering value, we measure performance using a real-time control group – routing a portion of calls using the client's existing system and the majority of calls using our data-scientist-designed pairing and next best action recommendation strategies. Clients are billed on our incremental improvement, so model quality is central to our product.

Key Responsibilities

- Develop modeling, simulation, and validation tools to support our AI production team
- The particular challenges of our domain require applying a wide range of classical to cutting-edge techniques – often with extensive tailoring – to build models and statistically validate their predicted performance. This involves careful analysis of complex environments and the ramifications of a change to our real-time pairing and recommendation systems
- The R&D team works intimately with our production data scientists, so the role can involve assisting with particularly tricky client models and developing new strategies to address complicated metrics or routing structures
- You'll also work with our engineering teams and developers to write our real-time call-tracking, pairing and task assignment systems in addition to our modeling and monitoring infrastructure

The ideal Candidate will have

- Experience with statistics, machine learning, linear programming, or mathematical optimization, both practical and theoretical
- Excellent skills at distilling complex, ambiguous scenarios into tractable models
- Familiarity with simulation and at least one programming language for data analysis such as R, Python, or Julia
- Familiarity with SQL, relational databases, version control, and tools for reproducibility such as git, Jupyter and R Markdown, make, or authoring custom packages
- Demonstrated ability to manage time independently and take projects to completion
- Willingness to both teach others and learn new techniques
- Ability to document and explain cutting-edge techniques to other team members
- Comfort working in a collaborative environment with cross-team communication to bring projects into production
- Familiarity with Bayesian statistics, hierarchical modeling, MCMC algorithms, latent factor models
- Familiarity with reinforcement learning, dynamic programming, multi-armed bandits
- Publications in machine learning, statistics, or optimization
- Software engineering experience, particularly C++

Education and Qualifications

- Graduate degree in Statistics, Mathematics, Econometrics, Operations Research, or other field with relevant research

Software Engineer/Architect (Core)

Purpose

As a member of the AI R&D team, you'll develop high-performance statistical and numerical optimization packages to be used by our AI production team. Our pairing technology requires extremely high precision estimates to operate at full performance. We work with methods that are computationally expensive even for moderately sized datasets

Key Responsibilities

- Dive into the core machine learning algorithms, tune them for performance, apply parallelization strategies where possible, and implement the next generation of algorithms.
- Set up simulation and performance labs to understand the performance of our pairing software
- Working closely with researchers and other R&D engineers.

The ideal Candidate will have

- Proven software engineering experience in C++
- Experience with computational intensive applications
- Experience with parallelization frameworks like MPI or OpenMP, GPU programming, or multicore architectures like Xeon Phi
- Passion for writing beautiful code and tuning performance
- Strong ability to think analytically and a basic familiarity with statistics, Monte Carlo methods, or numerical optimization
- Solid written and verbal communication skills to document and explain complex systems
- Demonstrated ability to manage time independently and take projects to completion
- Willingness to both teach others and learn new techniques
- Comfort working in a collaborative environment with cross-team communication to bring projects into production
- Ability to set up performance labs
- Experience with a language like Python or R for data analysis.
- In-depth knowledge of machine learning, statistics, or linear programming.
- Linux system administration and shell scripting.
- DevOps or continuous deployment/integration experience.

Education and Qualifications

Degree in a quantitative or technical discipline (Computer Science, Operations Research, Mathematics or other field with relevant research)

Software Engineer/Architect (Test)

Purpose

Afiniti is looking to hire a Software Engineer/Architect for the AI R&D Team. This position is located in Karachi Islamabad or Lahore, Pakistan and reports to the Director of AI R&D.

Key Responsibilities

- Ensure our core technologies are robust and stable by writing scripts to automate testing and create tools so developers can test their own code.
- Set up simulation and performance labs to debug and predict the performance of our pairing software and create automated build, test, and release infrastructure.
- Analyze complex software systems including machine learning components and collaborate with other R&D engineers to influence design for testability.

The ideal Candidate will have

- Experience in an automated testing role
- Experience with at least one programming language such as C#, C++, or Java
- Experience doing data validation with different types of databases and data structures
- Knowledge of CI/CD tools, scripting languages, and version control (TFS, git)
- Strong ability to think analytically and a basic familiarity with probability and statistics
- Demonstrated ability to manage time independently and take projects to completion
- Comfort working in a collaborative environment with cross-team communication to bring projects into production
- Experience with a language like Python or R for data analysis.

Education and Qualifications

- Degree in a quantitative or technical discipline

Software Engineer/Architect (UI and visualization)

Purpose

Afiniti is looking to hire a Software Engineer/Architect for the AI R&D Team. This position is located in Karachi Islamabad or Lahore, Pakistan and reports to the Director of AI R&D.

Key Responsibilities

As a member of the AI R&D team, you'll develop front-end UIs and visualization tools for exploratory data analysis, modeling building, and production monitoring. You'll work closely with other R&D engineers to extend and refine the ecosystem of tools used by our production data scientists. Challenges to be tackled in this position include building flexible UIs to support our next generation of machine learning methods, creating expressive visualizations of production or simulation outcomes, and building and integrating with data pipelines for modeling and monitoring.

The ideal Candidate will have

- Experience designing and developing applications, dashboards, and visualization tools
- Experience building and operating data processing infrastructure, including data pipelines, SQL/NoSQL databases, and other related tools
- Passion for writing beautiful code and beautiful interfaces
- Ability to write comprehensive documentation for users and developers
- Experience with continuous integration pipelines
- Strong analytical, algorithmic, and problem solving skills
- Demonstrated ability to manage time independently and take projects to completion
- Comfort working in a collaborative environment with cross-team communication to bring projects into production
- Experience with a language like Python or R for data analysis.
- DevOps or continuous deployment/integration experience.

Education and Qualifications

Degree in a quantitative discipline

Salary and Package

As well as a competitive base salary dependent on the number of years of experience, we also offer corporate benefits.