Related Skills

API Path
/utils/relatedskills

/utils/relatedskills?skill_text={skill_text}&ignoreCase={ignoreCase}&numResults={numResults}&columns={columns}&threshold={threshold}

GET

OAuth:

Client Credentials

Abstract:

Returns skills statistically related or similar to the skill query. Related skills are skills that are commonly listed together on profiles.

Will return multiple results when multiple skills are parsed from the skill_text above.

Parameters:

skill_text - Required. The lookup skill query that determines the related skills return from this endpoint. Will return multiple results when multiple skills are parsed from skill_text

numResults - (default: 10) Number of related skills to return, sorted by highest correlated skills first.

threshold - (default: 0.0) Minimum skill correlation value return by this endpoint. For example, if you want highly relevant skills, you can use 0.5 as the threshold value.

ignoreCase - (default: false) Will ignore skill_text casing when looking for related skills. Set to true if you are expecting plain user-submitted data (such as input from a web form). We recommended setting ignoreCase to false if parsing a job description.

columns - (default: all) Determines which columns are returned in the JSON output from this endpoint. For example, settings columns to "related_skills, related_titles, skills_tree" when calling this endpoint will only return those columns. Some columns, such as skill_text, numResults, threshold, and extracted_skills will always be returned.

Columns are defined as:

-
  - skills_tree
  - related_skills
  - related_skills_tree
  - skill_sectors
  - related_titles
  - skill_trends
  - suggested_skills
  - extracted_skills
  - freebase

Payload:

N/A

Implemented in:

com.dice.util.relatedskills.controller.RelatedSkillsController.getRelatedSkills()

Example Usage:

http://api.dicepilot.com/utils/relatedskills?skill_text=java+developer+with+scala+hadoop+mongo+r+ml+experience&numResults=5&ignoreCase=true&threshold=0.0

https://api.dicepilot.com/utils/relatedskills?skill_text=Python+web+developer+focused+on+flask+api&numResults=5

https://api.dicepilot.com/utils/relatedskills?skill_text=Python+web+developer+focused+on+flask+api&numResults=5&columns=related_skills%2C+related_titles%2C+skills_tree

http://api.dice.com/utils/relatedskills?skill_text=visual+basic+&numResults=5&ignoreCase=true&threshold=0.0

Returns On:

200 - A list of related skills

Example output


```
{
     "skills_tree": [
         {
             "name": "Software Development",
             "children": [
                 {
                     "name": "Web Development",
                     "children": [
                         {
                             "name": "Scala"
                         }
                     ]
                 },
                 {
```

```
                "name": "Web Architecture",
                "children": [
                    {
                        "name": "Java"
                    }
                ]
            }
        ]
    },
    {
        "name": "Data",
        "children": [
            {
                "name": "Databases",
                "children": [
                    {
                        "name": "Nonrelational Databases",
                        "children": [
                            {
                                "name": "MongoDB"
                            }
                        ]
                    }
                ]
            },
            {
                "name": "Data Science",
                "children": [
                    {
                        "name": "Search Technologies",
                        "children": [
                            {
                                "name": "Apache Hadoop"
                            }
                        ]
                    },
                    {
                        "name": "R"
                    },
                    {
                        "name": "Machine learning"
                    }
                ]
            }
        ]
    }
],
"related_skills": [
    {
        "related_skills": [
            "Apache Hive",
            "Apache Pig",
            "Apache HBase",
```

```
            "MapReduce",
            "Big data"
        ],
        "name": "Apache Hadoop"
    },
    {
        "related_skills": [
            "JSP",
            "Hibernate",
            "Spring",
            "Enterprise JavaBeans",
            "Apache Struts"
        ],
        "name": "Java"
    },
    {
        "related_skills": [
            "R",
            "Neural networks",
            "Statistics",
            "Natural language processing",
            "Artificial intelligence"
        ],
        "name": "Machine learning"
    },
    {
        "related_skills": [
            "Node.js",
            "CouchDB",
            "Apache Cassandra",
            "NoSQL",
            "Redis"
        ],
        "name": "MongoDB"
    },
    {
        "related_skills": [
            "Statistics",
            "Machine learning",
            "SAS",
            "Stata",
            "Statistical models"
        ],
        "name": "R"
    },
    {
        "related_skills": [
            "Apache Spark",
            "Play Framework",
            "Apache Mahout",
            "Cloudera Impala",
            "Haskell"
        ],
```

```
        "name": "Scala"
    }
],
"related_skills_tree": {},
"skill_sectors": [
    {
        "skills": [
            "Apache Hadoop",
            "Machine learning",
            "MongoDB",
            "R"
        ],
        "name": "Data"
    },
    {
        "skills": [
            "Java",
            "Scala"
        ],
        "name": "Software Development"
    }
],
"related_titles": [
    {
        "related_titles": [
            "Hadoop Administrator",
            "Hadoop Developer",
            "Hadoop Architect",
            "Big Data Engineer",
            "Big Data Architect",
            "Data Engineer"
        ],
        "name": "Apache Hadoop"
    },
    {
        "related_titles": [
            "Junior Java Developer",
            "Java Backend Developer",
            "Java Lead",
            "Java Consultant",
            "Java Developer",
            "Mid Level Java Developer"
        ],
        "name": "Java"
    },
    {
        "related_titles": [
            "Data Scientist",
            "Hadoop Developer",
            "Senior Software Engineer",
            "Software Engineer",
            "Java Developer"
        ],
```

```
            "name": "Machine learning"
        },
        {
            "related_titles": [
                "Big Data Engineer",
                "Cyber Software Engineer 3 w/ polygraph",
                "Data Engineer",
                "Big Data Architect",
                "Ruby on Rails Developer",
                "Database Architect"
            ],
            "name": "MongoDB"
        },
        {
            "related_titles": [
                "Data Scientist",
                "Hadoop Administrator",
                "Hadoop Developer",
                "Senior Programmer Analyst",
                "Data Analyst",
                "Technical Writer"
            ],
            "name": "R"
        },
        {
            "related_titles": [
                "Senior Software Engineer",
                "Senior Java Developer",
                "Java Developer",
                "Software Engineer",
                "Web Developer"
            ],
            "name": "Scala"
        }
    ],
    "skill_trends": [
        {
            "skill_trend": {
                "2006": 9.125519698e-7,
                "2007": 0.0000067172136997,
                "2008": 0.0001591350767465,
                "2009": 0.0009139695979081,
                "2010": 0.0021616755435724,
                "2011": 0.0049109423424037,
                "2012": 0.0100794691186893,
                "2013": 0.0150243732353409,
                "2014": 0.0219169438987242
            },
            "name": "Apache Hadoop"
        },
        {
            "skill_trend": {
                "2002": 0.0878998227905109,
```

```
            "2003": 0.1016179018980499,
            "2004": 0.1361728182782756,
            "2005": 0.1271908880182203,
            "2006": 0.1399288939505104,
            "2007": 0.1419691511960838,
            "2008": 0.1590032678950608,
            "2009": 0.1543545610261007,
            "2010": 0.1731554745658271,
            "2011": 0.178658705021815,
            "2012": 0.1877974516637779,
            "2013": 0.1913016356422643,
            "2014": 0.192558643546546
        },
        "name": "Java"
    },
    {
        "skill_trend": {
            "2002": 0.000048952897522,
            "2003": 0.0001660832860674,
            "2004": 0.0003250198157242,
            "2005": 0.000528094041189,
            "2006": 0.0006059345079702,
            "2007": 0.0007271383829987,
            "2008": 0.0009306990852144,
            "2009": 0.001063010203802,
            "2010": 0.0014828622326605,
            "2011": 0.0017005528499585,
            "2012": 0.0029451591298887,
            "2013": 0.0044565088592181,
            "2014": 0.0067907635587194
        },
        "name": "Machine learning"
    },
    {
        "skill_trend": {
            "2008": 0.0000032148500352,
            "2009": 0.0000175341889286,
            "2010": 0.0004328796113703,
            "2011": 0.0027623577669553,
            "2012": 0.0072339687099492,
            "2013": 0.0113374021222897,
            "2014": 0.0161805558940916
        },
        "name": "MongoDB"
    },
    {
        "skill_trend": {
            "2002": 0.0045330383105376,
            "2003": 0.0044560459016598,
            "2004": 0.0049927237499318,
            "2005": 0.0063315104725542,
            "2006": 0.0058549334384593,
            "2007": 0.0088784772076542,
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```
                "2008": 0.0078538786361963,
                "2009": 0.0063495681658032,
                "2010": 0.0064986391971126,
                "2011": 0.0065607888991058,
                "2012": 0.0070248944697772,
                "2013": 0.0081972795138155,
                "2014": 0.0110834788264814
            },
            "name": "R"
        },
        {
            "skill_trend": {
                "2002": 0.0000097905795044,
                "2003": 0.0000188018814416,
                "2004": 0.0000083876081477,
                "2005": 0.0000033708130288,
                "2006": 0.0000146008315173,
                "2007": 0.0000235102479491,
                "2008": 0.0000417930504586,
                "2009": 0.0000734244161389,
                "2010": 0.0002967539474173,
                "2011": 0.000940715261459,
                "2012": 0.00207122880597,
                "2013": 0.0035112713444573,
                "2014": 0.0047161368905392
            },
            "name": "Scala"
        }
    ],
    "suggested_skills": [
        "JSP",
        "Statistics",
        "Enterprise JavaBeans",
        "Apache Sqoop",
        "Apache Spark"
    ],
    "extracted_skills": [
        "Apache Hadoop",
        "Java",
        "Machine learning",
        "MongoDB",
        "R",
        "Scala"
    ],
    "numResults": 5,
    "freebase": [
        {
            "description": "Apache Hadoop is an open-source software framework for
distributed storage and distributed processing of Big Data on clusters of commodity
hardware. Its Hadoop Distributed File System splits files into large blocks and
distributes the blocks amongst the nodes in the cluster. For processing the data, the
Hadoop Map/Reduce ships code to the nodes that have the required data, and the nodes
then process the data in parallel. This approach takes advantage of data locality, in
```

contrast to conventional HPC architecture which usually relies on a parallel file system. Since 2012, the term \"Hadoop\" often refers not to just the base Hadoop package but rather to the Hadoop Ecosystem, which includes all of the additional software packages that can be installed on top of or alongside Hadoop, such as Apache Hive, Apache Pig and Apache Spark. The base Apache Hadoop framework is composed of the following modules: Hadoop Common contains libraries and utilities needed by other Hadoop modules. Hadoop Distributed File System a distributed file-system that stores data on commodity machines, providing very high aggregate bandwidth across the cluster.",
            "name": "Apache Hadoop",
            "url": "http://www.freebase.com/m/0fdjtq"
        },
        {
            "description": "Java is a computer programming language that is concurrent, class-based, object-oriented, and specifically designed to have as few implementation dependencies as possible. It is intended to let application developers \"write once, run anywhere\", meaning that code that runs on one platform does not need to be recompiled to run on another. Java applications are typically compiled to bytecode that can run on any Java virtual machine regardless of computer architecture. Java is, as of 2014, one of the most popular programming languages in use, particularly for client-server web applications, with a reported 9 million developers. Java was originally developed by James Gosling at Sun Microsystems and released in 1995 as a core component of Sun Microsystems' Java platform. The language derives much of its syntax from C and C++, but it has fewer low-level facilities than either of them. The original and reference implementation Java compilers, virtual machines, and class libraries were originally released by Sun under proprietary licences.",
            "name": "Java",
            "url": "http://www.freebase.com/m/07sbkfb"
        },
        {
            "description": "Machine learning is a scientific discipline that deals with the construction and study of algorithms that can learn from data. Such algorithms operate by building a model based on inputs and using that to make predictions or decisions, rather than following only explicitly programmed instructions. Machine learning can be considered a subfield of computer science and statistics. It has strong ties to artificial intelligence and optimization, which deliver methods, theory and application domains to the field. Machine learning is employed in a range of computing tasks where designing and programming explicit, rule-based algorithms is infeasible. Example applications include spam filtering, optical character recognition, search engines and computer vision. Machine learning is sometimes conflated with data mining, although that focuses more on exploratory data analysis. Machine learning and pattern recognition \"can be viewed as two facets of the same field.\"",
            "name": "Machine learning",
            "url": "http://www.freebase.com/m/01hyh_"
        },
        {
            "description": "MongoDB is a cross-platform document-oriented database. Classified as a NoSQL database, MongoDB eschews the traditional table-based relational database structure in favor of JSON-like documents with dynamic schemas, making the integration of data in certain types of applications easier and faster. Released under a combination of the GNU Affero General Public License and the Apache License, MongoDB is free and open-source software. First developed by the software company 10gen in

October 2007 as a component of a planned platform as a service product, the company shifted to an open source development model in 2009, with 10gen offering commercial support and other services. Since then, MongoDB has been adopted as backend software by a number of major websites and services, including Brave Collective, Craigslist, eBay, Foursquare, SourceForge, Viacom, and the New York Times, among others. MongoDB is the most popular NoSQL database system.",
            "name": "MongoDB",
            "url": "http://www.freebase.com/m/05z_r2n"
        },
        {
            "description": "R is a free software programming language and software environment for statistical computing and graphics. The R language is widely used among statisticians and data miners for developing statistical software and data analysis. Polls and surveys of data miners are showing R's popularity has increased substantially in recent years. R is an implementation of the S programming language combined with lexical scoping semantics inspired by Scheme. S was created by John Chambers while at Bell Labs. R was created by Ross Ihaka and Robert Gentleman at the University of Auckland, New Zealand, and is currently developed by the R Development Core Team, of which Chambers is a member. R is named partly after the first names of the first two R authors and partly as a play on the name of S. R is a GNU project. The source code for the R software environment is written primarily in C, Fortran, and R. R is freely available under the GNU General Public License, and pre-compiled binary versions are provided for various operating systems. R uses a command line interface; however, several graphical user interfaces are available for use with R.",
            "name": "R",
            "url": "http://www.freebase.com/m/0212jm"
        },
        {
            "description": "Scala is an object-functional programming language for general software applications. Scala has full support for functional programming and a very strong static type system. This allows programs written in Scala to be very concise and thus smaller in size than most general purpose programming languages. Many of Scala's design decisions were inspired by criticism over the shortcomings of Java. Scala source code is intended to be compiled to Java bytecode, so that the resulting executable code runs on a Java virtual machine. Java libraries may be used directly in Scala code, and vice versa. Like Java, Scala is object-oriented, and uses a curly-brace syntax reminiscent of the C programming language. Unlike Java, Scala has many features of functional programming languages like Scheme, Standard ML and Haskell, including currying, type inference, immutability, lazy evaluation, and pattern matching. It also has an advanced type system supporting algebraic data types, covariance and contravariance, higher-order types, and anonymous types. Other features of Scala not present in Java include operator overloading, optional parameters, named parameters, raw strings, and no checked exceptions.",
            "name": "Scala",
            "url": "http://www.freebase.com/m/091hdj"
        }
    ],
    "skill_text": "java developer with scala hadoop mongo r ml experience",
    "threshold": 0
}