

```
In [8]: from bs4 import BeautifulSoup
import requests
import pandas as pd
import numpy as np
```

```
In [39]: url = "https://www.journals.elsevier.com/artificial-intelligence/most-downloaded-article"
source = requests.get(url)
source
```

```
Out[39]: <Response [200]>
```

```
In [40]: soup = BeautifulSoup(source.content)
soup
```

```
<!DOCTYPE html>
Out[40]: <html><head><link as="font" crossorigin="" href="/fonts/NexusSansWebPro-Regular.woff2" r
el="preload" type="font/woff2"/><link as="font" crossorigin="" href="/fonts/ElsevierGull
iver-Regular.woff2" rel="preload" type="font/woff2"/><script src="//assets.adobedtm.com/
4a848ae9611a/4da1513b0562/launch-a536f9fbceee.min.js"></script><meta name="next-font-pre
connect"/><meta content="width=device-width" name="viewport"/><meta charset="utf-8"/><li
nk href="/apple-touch-icon.png" rel="apple-touch-icon" sizes="180x180"/><link href="/fav
icon-32x32.png" rel="icon" sizes="32x32" type="image/png"/><link href="/favicon-16x16.pn
g" rel="icon" sizes="16x16" type="image/png"/><link color="#ff6c00" href="/safari-pinned
-tab.svg" rel="mask-icon"/><title>Most Downloaded Articles - Artificial Intelligence - J
ournal - Elsevier</title><meta content="The journal of Artificial Intelligence (AIJ) we
lcomes papers on broad aspects of AI that constitute advances in the overall field inclu
ding, but not limited ..." name="description"/><meta content="en_US" name="og:locale"/><me
ta content="Most Downloaded Articles - Artificial Intelligence - Journal - Elsevier" pro
perty="og:title"/><meta content="The journal of Artificial Intelligence (AIJ) welcomes
papers on broad aspects of AI that constitute advances in the overall field including, b
ut not limited ..." property="og:description"/><meta content="https://www.elsevier.com/_d
ata/cover_img/505601.gif" name="og:image:url"/><meta content="https://www.elsevier.com/_
_data/cover_img/505601.gif" name="og:image:secure_url"/><meta content="journals.elsevie
r.com/artificial-intelligence/most-downloaded-articles" name="og:url"/><meta content="we
bsite" property="og:type"/><meta content="Most Downloaded Articles - Artificial Intellig
ence - Journal - Elsevier" name="twitter:title"/><meta content="The journal of Artificial
Intelligence (AIJ) welcomes papers on broad aspects of AI that constitute advances in
the overall field including, but not limited ..." name="twitter:description"/><meta conten
t="https://www.elsevier.com/_data/cover_img/505601.gif" name="twitter:image"/><meta conten
t="summary" name="twitter:card"/><script type="application/ld+json">{&quot;@context&q
uot;:&quot;https://schema.org&quot;;&quot;@type&quot;:&quot;Periodical&quot;;&quot;issn&
quot;:&quot;0004-3702&quot;;&quot;name&quot;:&quot;Artificial Intelligence&quot;;&quot;p
ublisher&quot;:&quot;Elsevier&quot;;&quot;acquireLicensePage&quot;:&quot;https://www.els
evier.com/journals/artificial-intelligence/0004-3702/subscribe?subscriptiontype=institut
ional&quot;;}</script><link as="image" imagesizes="100vw" imagesrcset="/_next/image?url=%
2Fimages%2Flogos%2Felsevier-graphic.svg&w=640&q=75 640w, /_next/image?url=%2Fima
ges%2Flogos%2Felsevier-graphic.svg&w=750&q=75 750w, /_next/image?url=%2Fimages%2
Flogos%2Felsevier-graphic.svg&w=828&q=75 828w, /_next/image?url=%2Fimages%2Flogo
s%2Felsevier-graphic.svg&w=1080&q=75 1080w, /_next/image?url=%2Fimages%2Flogos%2
Felsevier-graphic.svg&w=1200&q=75 1200w, /_next/image?url=%2Fimages%2Flogos%2Fel
sevier-graphic.svg&w=1920&q=75 1920w, /_next/image?url=%2Fimages%2Flogos%2Felsev
ier-graphic.svg&w=2048&q=75 2048w, /_next/image?url=%2Fimages%2Flogos%2Felsevier
-graphic.svg&w=3840&q=75 3840w" rel="preload"/><link as="image" imagesizes="100v
w" imagesrcset="/_next/image?url=%2Fimages%2Flogos%2Felsevier-wordmark.svg&w=640&a
p;q=75 640w, /_next/image?url=%2Fimages%2Flogos%2Felsevier-wordmark.svg&w=750&q=
75 750w, /_next/image?url=%2Fimages%2Flogos%2Felsevier-wordmark.svg&w=828&q=75 8
28w, /_next/image?url=%2Fimages%2Flogos%2Felsevier-wordmark.svg&w=1080&q=75 1080
w, /_next/image?url=%2Fimages%2Flogos%2Felsevier-wordmark.svg&w=1200&q=75 1200w,
/_next/image?url=%2Fimages%2Flogos%2Felsevier-wordmark.svg&w=1920&q=75 1920w, /_
next/image?url=%2Fimages%2Flogos%2Felsevier-wordmark.svg&w=2048&q=75 2048w, /_ne
xt/image?url=%2Fimages%2Flogos%2Felsevier-wordmark.svg&w=3840&q=75 3840w" rel="p
reload"/><meta content="22" name="next-head-count"/><link as="style" href="/_next/stati
c/css/799ef0e311a90fb2.css" rel="preload"/><link data-n-g="" href="/_next/static/css/799
ef0e311a90fb2.css" rel="stylesheet"/><noscript data-n-css=""></noscript><script defer=""
nomodule="" src="/_next/static/chunks/polyfills-5cd94c89d3acac5f.js"></script><script da
ta-nscript="beforeInteractive" defer="" src="https://polyfill.io/v3/polyfill.min.js?feat
ures=Element.prototype.getAttributeNames%2CIntl%2CString.prototype.normalize%2CscrollInt
oView%2CIntersectionObserver"></script><script data-nscript="beforeInteractive" defer=""
nomodule="" src="/browser-support.js"></script><script defer="" src="/_next/static/chunk
s/webpack-99dbba938e74e8c1.js"></script><script defer="" src="/_next/static/chunks/frame
work-00571d6fb73aeead.js"></script><script defer="" src="/_next/static/chunks/main-137dd
9138f856d72.js"></script><script defer="" src="/_next/static/chunks/pages/_app-d450e8541
f0db215.js"></script><script defer="" src="/_next/static/chunks/2757-aebf18c54c71a56a.j
s"></script><script defer="" src="/_next/static/chunks/149-df8fa8fee2508c1c.js"></script
><script defer="" src="/_next/static/chunks/3560-d504d80f56fceddf.js"></script><script d
efer="" src="/_next/static/chunks/84-712d50758633a55a.js"></script><script defer="" src
="/_next/static/chunks/pages/%5Bslug%5D/most-downloaded-articles-cb156fba99868abb.js"></
script><script defer="" src="/_next/static/0ohGP-kM0hfp4_xLmWgAq/_buildManifest.js"></sc
```

```
ript><script defer="" src="/_next/static/OohGP-kM0hfp4_xLmWgAq/_ssgManifest.js"></script>
><script defer="" src="/_next/static/OohGP-kM0hfp4_xLmWgAq/_middlewareManifest.js"></script>
<style data-styled="" data-styled-version="5.3.3">.cFSZAH{margin-top:0.25rem;}/*!sc
*/
.cFSZAH a{color:#737373;}/*!sc*/
.cFSZAH a::after{margin:0 0.25rem;content:url('data:image/svg+xml;charset=utf-8,<svg wid
th="12" height="12" xmlns="http://www.w3.org/2000/svg" viewBox="0 0 9 15"><path d="M.156
13.469L6.094 7.53.156 1.594 1.25.517.031 7.031-7.031 7.032z" fill="grey" fill-rule="nonz
ero" /></svg>');}/*!sc*/
.cFSZAH ol{display:block;list-style-type:none;margin:0;padding:0;}/*!sc*/
.cFSZAH li{display:inline;}/*!sc*/
.cFSZAH li:last-of-type a::after{content:'';}/*!sc*/
data-styled.g1[id="sc-yuedcl-0"]{content:"cFSZAH,"}/*!sc*/
.hCLUbN{color:#2e2e2e;font-size:1.5em;font-weight:400;line-height:1.2;margin:0;}/*!sc*/
@media screen and (min-width:37.5em){.hCLUbN{font-size:2em;}/*!sc*/
data-styled.g2[id="sc-1qrq3sd-0"]{content:"hCLUbN,"}/*!sc*/
.MKjKb{color:#505050;font-size:1.5em;font-weight:400;line-height:1.3;margin:0;}/*!sc*/
data-styled.g3[id="sc-1qrq3sd-1"]{content:"MKjKb,"}/*!sc*/
.iBQUpF{color:#505050;font-size:1.5em;font-weight:700;line-height:1.1667;padding:0.05px
0;margin-top:0;margin-bottom:1rem;}/*!sc*/
.iBQUpF::before{content:'';margin-top:-0.2349em;display:block;height:0;}/*!sc*/
.iBQUpF::after{content:'';margin-bottom:-0.2759em;display:block;height:0;}/*!sc*/
data-styled.g4[id="sc-1qrq3sd-2"]{content:"iBQUpF,"}/*!sc*/
.pgLAT{-webkit-flex-basis:100%;-ms-flex-preferred-size:100%;flex-basis:100%;}/*!sc*/
data-styled.g5[id="sc-1w3fpd7-0"]{content:"pgLAT,"}/*!sc*/
.nrDZj{display:block;}/*!sc*/
.nrDZj:hover,.nrDZj:focus,.nrDZj:active{-webkit-text-decoration:none;text-decoration:non
e;outline:none;}/*!sc*/
.nrDZj[href]:hover,.nrDZj[href]:active{-webkit-text-decoration-line:none;text-decoration
-line:none;}/*!sc*/
.nrDZj[href]:hover h2,.nrDZj[href]:active h2,.nrDZj[href]:hover h3,.nrDZj[href]:active h
3,.nrDZj[href]:hover h4,.nrDZj[href]:active h4{-webkit-text-decoration-line:underline;te
xt-decoration-line:underline;-webkit-text-decoration-thickness:2px;text-decoration-thick
ness:2px;text-underline-offset:0.2rem;}/*!sc*/
.nrDZj[href]:active h2,.nrDZj[href]:active h3,.nrDZj[href]:active h4{-webkit-text-decora
tion-color:#2e2e2e;text-decoration-color:#2e2e2e;}/*!sc*/
.nrDZj[href]:hover h2,.nrDZj[href]:hover h3,.nrDZj[href]:hover h4{-webkit-text-decoratio
n-color:#eb6500;text-decoration-color:#eb6500;}/*!sc*/
.nrDZj[href][data-focus-visible-added]{outline:2px solid #eb6500;}/*!sc*/
data-styled.g6[id="sc-5smylv-0"]{content:"nrDZj,"}/*!sc*/
.ljBYfY{display:-webkit-box;display:-webkit-flex;display:-ms-flexbox;display:flex;-webki
t-flex-wrap:wrap;-ms-flex-wrap:wrap;flex-wrap:wrap;margin-top:0;margin-bottom:0;color:#5
05050;font-size:0.875em;}/*!sc*/
.ljBYfY > *{margin-bottom:0.25rem;}/*!sc*/
.ljBYfY > :not(:last-child){margin-right:1rem;}/*!sc*/
data-styled.g7[id="sc-1thf9ly-0"]{content:"ljBYfY,"}/*!sc*/
.bIzabL{margin-top:0.5rem;margin-bottom:0.5rem;}/*!sc*/
.bIzabL > *{margin-bottom:0.25rem;}/*!sc*/
.bIzabL > :nth-child(n + 3)::before{content:'|';display:inline-block;margin:0 1rem 0
0;}/*!sc*/
data-styled.g8[id="sc-1thf9ly-1"]{content:"bIzabL,"}/*!sc*/
.bKddwo{display:-webkit-inline-box;display:-webkit-inline-flex;display:-ms-inline-flexbo
x;display:inline-flex;-webkit-align-items:center;-webkit-box-align:center;-ms-flex-alig
n:center;align-items:center;}/*!sc*/
.bKddwo * + *{margin-left:0.25rem;}/*!sc*/
data-styled.g9[id="sc-1thf9ly-2"]{content:"bKddwo,"}/*!sc*/
.hqhUYH{font-family:"Elsevier Gulliver",Georgia,serif;font-size:1.125em;font-weight:400;
color:#2e2e2e;margin:0;}/*!sc*/
data-styled.g10[id="sc-1nmom32-0"]{content:"hqhUYH,"}/*!sc*/
.ebTA-dR{font-size:1.25em;margin-bottom:0;}/*!sc*/
data-styled.g11[id="sc-1nmom32-1"]{content:"ebTA-dR,"}/*!sc*/
.ffmPq{list-style-type:none;margin:0;padding:0;}/*!sc*/
data-styled.g12[id="sc-9zxyh7-0"]{content:"ffmPq,"}/*!sc*/
.exAXfr{margin:1rem 0;}/*!sc*/
```

```
.exAXfr{last-of-type;margin-bottom:0.5rem;}/!*sc*/
data-styled.g13[id="sc-9zxyh7-1"]{content:"exAXfr, "}/!*sc*/
.jQmQZp{max-width:37.5rem;margin:1.5rem 0;}/!*sc*/
.jQmQZp:not(:last-of-type){border-bottom:1px solid #dcdcdc;}/!*sc*/
data-styled.g14[id="sc-9zxyh7-2"]{content:"jQmQZp, "}/!*sc*/
.fWlycu{display:none;opacity:0;-webkit-transition:opacity 200ms ease;transition:opacity
200ms ease;}/!*sc*/
data-styled.g15[id="sc-dc2toh-0"]{content:"fWlycu, "}/!*sc*/
.lhCPPw{max-width:60em;margin:0 auto;}/!*sc*/
data-styled.g16[id="sc-1dxr8k6-0"]{content:"lhCPPw, "}/!*sc*/
.hnoKGz{display:-webkit-inline-box;display:-webkit-inline-flex;display:-ms-inline-flexbo
x;display:inline-flex;-webkit-align-items:baseline;-webkit-box-align:baseline;-ms-flex-a
lign:baseline;align-items:baseline;border-radius:0;border:2px solid transparent;-webkit-
box-pack:center;-webkit-justify-content:center;-ms-flex-pack:center;justify-content:cent
er;-webkit-transition:all 120ms ease 0s;transition:all 120ms ease 0s;}/!*sc*/
.hnoKGz:active,.hnoKGz:hover,.hnoKGz[data-focus-visible-added]{outline:0;-webkit-text-de
coration:none;text-decoration:none;background-color:#eb6500;border:2px solid #eb6500;col
or:#fff;}/!*sc*/
.hnoKGz[data-button-size='default']{font-size:1em;padding:1rem 2rem;}/!*sc*/
.hnoKGz[data-button-size='default'] span{white-space:nowrap;font-size:16px;line-height:1
6px;}/!*sc*/
.hnoKGz[data-button-size='default'] span::before{content:'';margin-bottom:-0.1495em;disp
lay:table;}/!*sc*/
.hnoKGz[data-button-size='default'] span::after{content:'';margin-top:-0.1905em;display:
table;}/!*sc*/
.hnoKGz[data-button-size='small']{font-size:0.875em;padding:0.5rem 1rem;}/!*sc*/
.hnoKGz[data-button-size='small'] span{white-space:nowrap;font-size:14px;line-height:18p
x;}/!*sc*/
.hnoKGz[data-button-size='small'] span::before{content:'';margin-bottom:-0.2924em;displa
y:table;}/!*sc*/
.hnoKGz[data-button-size='small'] span::after{content:'';margin-top:-0.3334em;display:ta
ble;}/!*sc*/
data-styled.g17[id="sc-4ky1f6-0"]{content:"hnoKGz, "}/!*sc*/
.hLnlQv{background-color:#007398;border-color:#007398;color:#fff;}/!*sc*/
data-styled.g18[id="sc-4ky1f6-1"]{content:"hLnlQv, "}/!*sc*/
.hcBixJ{background-color:#fff;border-color:#007398;color:#007398;}/!*sc*/
data-styled.g20[id="sc-4ky1f6-3"]{content:"hcBixJ, "}/!*sc*/
.eTETae{font-size:16px;line-height:24px;margin:0 0 1.5rem;max-width:72ch;}/!*sc*/
.eTETae::before{content:'';margin-bottom:-0.3995em;display:table;}/!*sc*/
.eTETae::after{content:'';margin-top:-0.4405em;display:table;}/!*sc*/
.eTETae:last-child{margin-bottom:0;}/!*sc*/
data-styled.g21[id="sc-1q3g1nv-0"]{content:"eTETae, "}/!*sc*/
.ddyzPP{color:#737373;font-size:0.875em;}/!*sc*/
data-styled.g22[id="sc-jsgros-0"]{content:"ddyzPP, "}/!*sc*/
.AcWHr{color:#505050;display:inline-block;}/!*sc*/
.AcWHr p{margin:0.25rem 0 0;}/!*sc*/
data-styled.g23[id="sc-uosj0-0"]{content:"AcWHr, "}/!*sc*/
.fAiWUX{display:-webkit-inline-box;display:-webkit-inline-flex;display:-ms-inline-flexbo
x;display:inline-flex;position:relative;}/!*sc*/
.fAiWUX::before{content:'';z-index:1;position:absolute;top:0;left:0;width:100%;height:10
0%;border:1px solid rgb(0 0 0 / 15%);}/!*sc*/
data-styled.g24[id="sc-uosj0-1"]{content:"fAiWUX, "}/!*sc*/
.jdxuot{background-color:white;border-bottom:0.075rem solid #dcdcdc;padding:0.25rem 0.75
rem;}/!*sc*/
data-styled.g25[id="sc-29krko-0"]{content:"jdxuot, "}/!*sc*/
.edcyFL{font-family:"Elsevier Gulliver",Georgia,serif;font-size:1em;font-weight:400;line
-height:1.25;margin:0;margin-right:auto;white-space:nowrap;overflow:hidden;text-overflo
w:ellipsis;max-width:25rem;}/!*sc*/
data-styled.g26[id="sc-29krko-1"]{content:"edcyFL, "}/!*sc*/
.lcqMeI{display:-webkit-box;display:-webkit-flex;display:-ms-flexbox;display:flex;-webki
t-flex-wrap:nowrap;-ms-flex-wrap:nowrap;flex-wrap:nowrap;}/!*sc*/
data-styled.g27[id="sc-29krko-2"]{content:"lcqMeI, "}/!*sc*/
.PQfhP{display:-webkit-box;display:-webkit-flex;display:-ms-flexbox;display:flex;-webkit
-align-items:center;-webkit-box-align:center;-ms-flex-align:center;align-items:center;}/
```

```

*!sc*/
data-styled.g28[id="sc-29krko-3"]{content:"PQfhP,"}/*!sc*/
.jETNdX{display:none;font-size:0.875em;margin:0;}/*!sc*/
@media screen and (min-width:45em){.jETNdX{display:grid;grid-template-columns:repeat(2,auto);grid-gap:1rem;}}/*!sc*/
data-styled.g29[id="sc-29krko-4"]{content:".jETNdX,"}/*!sc*/
.gOAMsJ{display:grid;grid-gap:0.5rem;grid-template-columns:repeat(2,auto);grid-template-rows:auto;position:relative;}/*!sc*/
data-styled.g30[id="sc-29krko-5"]{content:".gOAMsJ,"}/*!sc*/
.bBznbl{margin:0;}/*!sc*/
data-styled.g31[id="sc-29krko-6"]{content:".bBznbl,"}/*!sc*/
.dnrrWg{margin:0 0.75rem;}/*!sc*/
data-styled.g32[id="sc-29krko-7"]{content:".dnrrWg,"}/*!sc*/
@media screen and (max-width:30em){.iQzzfb{display:none;}}/*!sc*/
data-styled.g33[id="sc-29krko-8"]{content:".iQzzfb,"}/*!sc*/
.RNqsw{display:-webkit-box;display:-webkit-flex;display:-ms-flexbox;display:flex;margin-right:0.75rem;}/*!sc*/
data-styled.g34[id="sc-29krko-9"]{content:".RNqsw,"}/*!sc*/
.eqibmi{margin-bottom:0;margin-left:0.5rem;}/*!sc*/
data-styled.g35[id="sc-29krko-10"]{content:".eqibmi,"}/*!sc*/
.civIvf{margin-bottom:0;margin-left:0.5rem;}/*!sc*/
data-styled.g36[id="sc-29krko-11"]{content:".civIvf,"}/*!sc*/
.fYuYRT{display:-webkit-inline-box;display:-webkit-inline-flex;display:-ms-inline-flexbox;display:inline-flex;-webkit-align-items:baseline;-webkit-box-align:baseline;-ms-flex-align:baseline;align-items:baseline;-webkit-box-pack:start;-webkit-justify-content:flex-start;-ms-flex-pack:start;justify-content:flex-start;-webkit-flex-wrap:nowrap;-ms-flex-wrap:nowrap;}/*!sc*/
data-styled.g37[id="sc-kvjqii-0"]{content:".fYuYRT,"}/*!sc*/
.hjlxNa{font-size:0.5625em;margin-right:0.25rem;}/*!sc*/
data-styled.g38[id="sc-kvjqii-1"]{content:".hjlxNa,"}/*!sc*/
.bDcWjJ{margin-right:0.5rem;}/*!sc*/
data-styled.g39[id="sc-kvjqii-2"]{content:".bDcWjJ,"}/*!sc*/
.hQPrvi{-webkit-appearance:none;-moz-appearance:none;appearance:none;background-color:transparent;border:0;color:#0c7dbb;cursor:pointer;display:inline;font-family:"Nexus Sans",Arial,sans-serif;font-size:inherit;line-height:1.6;padding:0;-webkit-transition:color 0.12s ease,text-decoration-color 0.12s ease;transition:color 0.12s ease;text-decoration-color 0.12s ease;}/*!sc*/
.hQPrvi:hover,.hQPrvi:active{color:#2e2e2e;-webkit-text-decoration-line:underline;text-decoration-line:underline;-webkit-text-decoration-thickness:2px;text-decoration-thickness:2px;text-underline-offset:0.3rem;}/*!sc*/
.hQPrvi:hover{-webkit-text-decoration-color:#eb6500;text-decoration-color:#eb6500;}/*!sc*/
.hQPrvi:active{-webkit-text-decoration-color:#2e2e2e;text-decoration-color:#2e2e2e;}/*!sc*/
.hQPrvi[data-focus-visible-added]{outline-style:solid;outline-width:2px;}/*!sc*/
data-styled.g40[id="sc-1qzfk1-0"]{content:".hQPrvi,"}/*!sc*/
.emEISL{border-top:2px solid #ff6c00;padding:2rem 0 4rem;}/*!sc*/
data-styled.g41[id="sc-1c6xsv-0"]{content:".emEISL,"}/*!sc*/
.kEACDc{display:-webkit-box;display:-webkit-flex;display:-ms-flexbox;display:flex;-webkit-align-items:flex-start;-webkit-box-align:flex-start;-ms-flex-align:flex-start;align-items:flex-start;-webkit-flex-direction:column;-ms-flex-direction:column;flex-direction:column;padding:0 1rem;}/*!sc*/
@media screen and (min-width:35em){.kEACDc{-webkit-flex-direction:row;-ms-flex-direction:row;flex-direction:row;}}/*!sc*/
@supports (grid-area:auto){.kEACDc{display:grid;grid-gap:0.5rem;grid-template-columns:auto 1fr;grid-auto-rows:auto auto;grid-template-areas:'text text' 'logo-left logo-right';padding:0 1rem;}@media screen and (min-width:61.25em){.kEACDc{grid-template-columns:10em auto 10em;grid-template-areas:'logo-left text logo-right';padding:0;}}/*!sc*/
data-styled.g42[id="sc-1c6xsv-1"]{content:".kEACDc,"}/*!sc*/
.gwkjaf{grid-area:logo-left;}/*!sc*/
data-styled.g43[id="sc-1c6xsv-2"]{content:".gwkjaf,"}/*!sc*/
.dzhXup{grid-area:logo-right;}/*!sc*/
data-styled.g44[id="sc-1c6xsv-3"]{content:".dzhXup,"}/*!sc*/
.hHsELc{padding:0.75rem 0;grid-area:text;width:100%;}/*!sc*/

```

```

data-styled.g45[id="sc-1c6xsv-4"]{content:"hHsELc,"}/*!sc*/
.cfTwSE{color:#737373;max-width:100%;}/*!sc*/
.cfTwSE:not(:last-child){margin:0 0 1rem;}/*!sc*/
.cfTwSE a{margin-right:1rem;}/*!sc*/
data-styled.g46[id="sc-1c6xsv-5"]{content:"cfTwSE,"}/*!sc*/
.bXyrVZ{color:#505050;font-size:1.25em;}/*!sc*/
.bXyrVZ[data-focus-visible-added]{outline:none;-webkit-text-decoration-color:#eb6500;text-decoration-color:#eb6500;-webkit-text-decoration-line:underline;text-decoration-line:underline;-webkit-text-decoration-thickness:2px;text-decoration-thickness:2px;text-underline-offset:0.3rem;}/*!sc*/
.bXyrVZ svg{color:#b9b9b9;font-size:0.5em;}/*!sc*/
@media screen and (min-width:62em){.bXyrVZ{font-size:1em;}/*!sc*/
@media screen and (min-width:75em){.bXyrVZ{font-size:1.25em;}/*!sc*/
data-styled.g47[id="sc-12m3iqn-0"]{content:"bXyrVZ,"}/*!sc*/
.dyvnmg{display:-webkit-box;display:-webkit-flex;display:-ms-flexbox;display:flex;-webkit-align-items:center;-webkit-box-align:center;-ms-flex-align:center;align-items:center;}/*!sc*/
data-styled.g48[id="sc-1lwlasb-0"]{content:"dyvnmg,"}/*!sc*/
.Cioql{position:relative;}/*!sc*/
data-styled.g49[id="sc-1lwlasb-1"]{content:"Cioql,"}/*!sc*/
.ldtKVU{height:2rem;width:2.25rem;}/*!sc*/
@media screen and (min-width:37.5em){.ldtKVU{height:3rem;width:3.375rem;}/*!sc*/
data-styled.g50[id="sc-1lwlasb-2"]{content:"ldtKVU,"}/*!sc*/
.fzwpcz{height:0.5625rem;width:4.0625rem;margin-left:0.75rem;}/*!sc*/
@media screen and (min-width:37.5em){.fzwpcz{height:0.875rem;width:6.3125rem;margin-left:1.25rem;}/*!sc*/
data-styled.g51[id="sc-1lwlasb-3"]{content:"fzwpcz,"}/*!sc*/
.bqGuKi{font-size:1.125em;}/*!sc*/
@media screen and (min-width:62em){.bqGuKi{margin-left:2px;}/*!sc*/
data-styled.g52[id="sc-1dvbwt1-0"]{content:"bqGuKi,"}/*!sc*/
.iScfRi{color:#505050;font-size:1em;margin:0;}/*!sc*/
.iScfRi:hover,.iScfRi:active{-webkit-text-decoration:none;text-decoration:none;}/*!sc*/
.iScfRi[data-focus-visible-added]{outline:none;}/*!sc*/
.iScfRi:hover,.iScfRi:active,.iScfRi[data-focus-visible-added]{color:#ff6c00;}/*!sc*/
@media screen and (min-width:37.5em){.iScfRi{font-size:1.25em;}/*!sc*/
@media screen and (min-width:62em){.iScfRi{border:2px solid #007398;}.iScfRi:hover,.iScfRi:active,.iScfRi[data-focus-visible-added]{background:#ff6c00;border:2px solid #ff6c00;color:#fff;}/*!sc*/
data-styled.g53[id="sc-1dvbwt1-1"]{content:"iScfRi,"}/*!sc*/
.kfquv0{display:-webkit-box;display:-webkit-flex;display:-ms-flexbox;display:flex;-webkit-align-items:center;-webkit-box-align:center;-ms-flex-align:center;align-items:center;}/*!sc*/
@media screen and (min-width:62em){.kfquv0{padding:0.5rem;}/*!sc*/
@media screen and (min-width:75em){.kfquv0{padding:0.5rem 1rem;}/*!sc*/
data-styled.g54[id="sc-1dvbwt1-2"]{content:"kfquv0,"}/*!sc*/
.ioewXg{display:-webkit-box;display:-webkit-flex;display:-ms-flexbox;display:flex;margin-right:0.25rem;font-size:20px;line-height:20px;}/*!sc*/
.ioewXg::before{content:'';margin-bottom:-0.1495em;display:table;}/*!sc*/
.ioewXg::after{content:'';margin-top:-0.1905em;display:table;}/*!sc*/
@media screen and (max-width:75em){.ioewXg{border:0;-webkit-clip:rect(0 0 0 0);clip:rect(0 0 0 0);-webkit-clip-path:inset(50%);clip-path:inset(50%);height:1px;margin:-1px;overflow:hidden;padding:0;position:absolute;width:1px;white-space:nowrap;word-wrap:normal;}/*!sc*/
data-styled.g55[id="sc-1dvbwt1-3"]{content:"ioewXg,"}/*!sc*/
.jdzJJA{display:-webkit-box;display:-webkit-flex;display:-ms-flexbox;display:flex;-webkit-align-items:center;-webkit-box-align:center;-ms-flex-align:center;align-items:center;list-style-type:none;margin:0;padding:0;}/*!sc*/
data-styled.g56[id="sc-1uz32rr-0"]{content:"jdzJJA,"}/*!sc*/
.kQunip{display:-webkit-box;display:-webkit-flex;display:-ms-flexbox;display:flex;-webkit-align-items:center;-webkit-box-align:center;-ms-flex-align:center;align-items:center;margin-left:1.5rem;}/*!sc*/
.kQunip:first-of-type{margin-left:0;}/*!sc*/
.kQunip:last-of-type{margin-left:2rem;}/*!sc*/
data-styled.g57[id="sc-1uz32rr-1"]{content:"kQunip,"}/*!sc*/

```

```

.isxohE{display:none;}/!*sc*/
@media screen and (min-width:62em){.isxohE{display:initial;}}/*!sc*/
data-styled.g58[id="sc-1uz32rr-2"]{content:"isxohE,"}/*!sc*/
@media screen and (min-width:62em){.fjIepc{display:none;}}/*!sc*/
data-styled.g59[id="sc-1uz32rr-3"]{content:"fjIepc,"}/*!sc*/
.kMumlj{color:#505050;font-size:20px;line-height:16px;}/!*sc*/
.kMumlj::before{content:'';margin-bottom:-0.0495em;display:table;}/!*sc*/
.kMumlj::after{content:'';margin-top:-0.0905em;display:table;}/!*sc*/
.kMumlj:hover,.kMumlj:active{-webkit-text-decoration:none;text-decoration:none;outline:none;}/!*sc*/
.kMumlj[data-focus-visible-added]{outline:none;}/!*sc*/
.kMumlj:hover,.kMumlj:active,.kMumlj[data-focus-visible-added]{color:#ff6c00;}/!*sc*/
@media screen and (min-width:37.5em){.kMumlj{font-size:24px;line-height:24px;}.kMumlj::before{content:'';margin-bottom:-0.1495em;display:table;}.kMumlj::after{content:'';margin-top:-0.1905em;display:table;}}/*!sc*/
data-styled.g60[id="sc-1uz32rr-4"]{content:"kMumlj,"}/*!sc*/
.kEzLkc{display:-webkit-box;display:-webkit-flex;display:-ms-flexbox;display:flex;color:#505050;font-size:1.25em;padding-top:0.25rem;}/!*sc*/
.kEzLkc:hover,.kEzLkc:active,.kEzLkc[data-focus-visible-added]{-webkit-text-decoration:none;text-decoration:none;color:#ff6c00;}/!*sc*/
.kEzLkc[data-focus-visible-added]{outline:none;}/!*sc*/
.kEzLkc svg{width:2em;}/!*sc*/
@media screen and (min-width:37.5em){.kEzLkc{font-size:1.5em;}}/*!sc*/
@media screen and (min-width:62em){.kEzLkc{display:none;}}/*!sc*/
data-styled.g61[id="sc-1uz32rr-5"]{content:"kEzLkc,"}/*!sc*/
.iJdaFT{display:none;-webkit-flex-direction:column;-ms-flex-direction:column;flex-direction:column;margin-bottom:2rem;}/!*sc*/
@media screen and (min-width:62em){.iJdaFT{display:none;}}/*!sc*/
data-styled.g62[id="sc-vyngc7-0"]{content:"iJdaFT,"}/*!sc*/
.jKSCEA{color:#505050;width:15em;}/!*sc*/
data-styled.g63[id="sc-vyngc7-1"]{content:"jKSCEA,"}/*!sc*/
.fuFVHx{display:none;font-size:1em;right:0.75rem;top:0.75rem;position:absolute;}/!*sc*/
.fuFVHx.visible{display:block;}/!*sc*/
data-styled.g64[id="sc-vyngc7-2"]{content:"fuFVHx,"}/*!sc*/
.grcxMK{position:relative;display:inline-block;}/!*sc*/
data-styled.g65[id="sc-1fdbg4d-0"]{content:"grcxMK,"}/*!sc*/
.qRtBA{font-size:0.6rem;margin-left:0.25rem;-webkit-transform:rotate(90deg);-ms-transform:rotate(90deg);transform:rotate(90deg);}/!*sc*/
.qRtBA[data-open]{-webkit-transform:rotate(270deg);-ms-transform:rotate(270deg);transform:rotate(270deg);}/!*sc*/
data-styled.g66[id="sc-1fdbg4d-1"]{content:"qRtBA,"}/*!sc*/
.dZyZyL{position:absolute;top:2rem;}/!*sc*/
data-styled.g67[id="sc-1fdbg4d-2"]{content:"dZyZyL,"}/*!sc*/
.gnRPaP{z-index:5;right:0;top:calc(100% + 1rem);min-width:15em;padding:1rem;background:rgba(235,235,235,0.85);border-top:2px solid #ff6c00;}/!*sc*/
.gnRPaP::after,.gnRPaP::before{content:'';position:absolute;right:0;width:0;height:0;border-top:0.40625em solid transparent;border-left:0.40625em solid transparent;}/!*sc*/
.gnRPaP::before{top:-13px;border-right:0.40625em solid #ff6c00;border-bottom:0.40625em solid #ff6c00;}/!*sc*/
.gnRPaP::after{top:-10px;border-right:0.40625em solid #ebebcb;border-bottom:0.40625em solid #ebebcb;}/!*sc*/
.eg0xd0{border:1px solid #b9b9b9;background:#f5f5f5;box-shadow:0 0 0.5rem 0 rgba(0,0,0,0.15);z-index:2;}/!*sc*/
data-styled.g68[id="sc-1fdbg4d-3"]{content:"gnRPaP,eg0xd0,"}/*!sc*/
.gVBpEc{list-style-type:none;margin:0;z-index:3;padding:1rem 1rem;white-space:nowrap;}/!*sc*/
.gVBpEc[data-align='left']{left:0;}/!*sc*/
.gVBpEc[data-align='right']{right:0;}/!*sc*/
data-styled.g69[id="sc-1fdbg4d-4"]{content:"gVBpEc,"}/*!sc*/
.fWJIJp{background:white;}/!*sc*/
data-styled.g70[id="sc-1fdbg4d-5"]{content:"fWJIJp,"}/*!sc*/
.dTlWdR{margin-bottom:0.75rem;}/!*sc*/
.dTlWdR:last-of-type{margin-bottom:0;}/!*sc*/
data-styled.g71[id="sc-1fdbg4d-6"]{content:"dTlWdR,"}/*!sc*/

```

```
.LGFeA{margin-bottom:0.75rem;}/!*sc*/
data-styled.g72[id="sc-1fdbg4d-7"]{content:"LGFeA, "}/!*sc*/
.ewtwcb{color:#505050;font-size:1.25em;line-height:1.35;cursor:pointer;}/!*sc*/
.ewtwcb:hover,.ewtwcb:active,.ewtwcb[data-focus-visible-added]{outline:none;-webkit-text-decoration-line:underline;text-decoration-line:underline;-webkit-text-decoration-color:#ff6c00;text-decoration-color:#ff6c00;-webkit-text-decoration-thickness:2px;text-decoration-thickness:2px;text-underline-offset:0.3rem;}/!*sc*/
data-styled.g73[id="sc-1fdbg4d-8"]{content:"ewtwcb, "}/!*sc*/
.LYYST{white-space:nowrap;margin-bottom:2rem;}/!*sc*/
@media screen and (min-width:62em){.LYYST{position:relative;margin-right:2rem;margin-bottom:0;}}/!*sc*/
data-styled.g74[id="sc-gvqsvo-0"]{content:"LYYST, "}/!*sc*/
.hUPkbI{color:#737373;font-size:1.25em;font-weight:400;margin:2rem 0 1.5rem;}/!*sc*/
data-styled.g75[id="sc-gvqsvo-1"]{content:"hUPkbI, "}/!*sc*/
.hdZLuu{min-width:15em;}/!*sc*/
data-styled.g76[id="sc-gvqsvo-2"]{content:"hdZLuu, "}/!*sc*/
.doOpnN{background:#fff;list-style:none;margin:0;padding:0;}/!*sc*/
data-styled.g77[id="sc-gvqsvo-3"]{content:"doOpnN, "}/!*sc*/
.dYBQLb{margin-bottom:0.75rem;}/!*sc*/
data-styled.g78[id="sc-gvqsvo-4"]{content:"dYBQLb, "}/!*sc*/
@media screen and (min-width:62em){.eTXxtX{display:none;}}/!*sc*/
data-styled.g79[id="sc-gvqsvo-5"]{content:"eTXxtX, "}/!*sc*/
.cWkpUK{display:none;}/!*sc*/
@media screen and (min-width:62em){.cWkpUK{display:block;}}/!*sc*/
data-styled.g80[id="sc-gvqsvo-6"]{content:"cWkpUK, "}/!*sc*/
.iCwJnF{position:absolute;background-color:#fff;overflow:hidden;padding:0 2rem;z-index:4;top:calc(100% + 1px);left:0;width:100%;}/!*sc*/
data-styled.g81[id="sc-nbr0sq-0"]{content:"iCwJnF, "}/!*sc*/
.iPBpEs{margin:2rem 0;}/!*sc*/
data-styled.g82[id="sc-nbr0sq-1"]{content:"iPBpEs, "}/!*sc*/
.jRjTLz{border-bottom:1px solid #b9b9b9;-webkit-align-items:center;-webkit-box-align:center;-ms-flex-align:center;align-items:center;display:-webkit-box;display:-webkit-flex;display:-ms-flexbox;display:flex;}/!*sc*/
data-styled.g83[id="sc-nbr0sq-2"]{content:"jRjTLz, "}/!*sc*/
.lef0Xt{font-size:1.5em;}/!*sc*/
data-styled.g84[id="sc-nbr0sq-3"]{content:"lef0Xt, "}/!*sc*/
.CJUyz{background-color:#fff;border:0;color:#505050;font-family:"Nexus Sans",Arial,sans-serif;font-size:1.5em;padding:1rem 0.5rem 0.5rem;box-shadow:none;margin-bottom:0;outline:0;overflow:hidden;width:100%;}/!*sc*/
.CJUyz[data-focus-visible-added]{outline:none;}/!*sc*/
.CJUyz::-webkit-search-cancel-button{-webkit-appearance:none;-moz-appearance:none;appearance:none;}/!*sc*/
data-styled.g85[id="sc-nbr0sq-4"]{content:"CJUyz, "}/!*sc*/
.bwhAfp{border:0;cursor:pointer;color:#0c7dbb;font-size:1.75em;margin-bottom:0;background-color:transparent;-webkit-transition:fill 0.15s linear;transition:fill 0.15s linear;}/!*sc*/
.bwhAfp:hover{color:#ff6c00;}/!*sc*/
data-styled.g86[id="sc-nbr0sq-5"]{content:"bwhAfp, "}/!*sc*/
.iMbvxE{border:0;cursor:pointer;color:#dcdcdc;display:none;font-size:1em;margin-bottom:0;background-color:transparent;-webkit-transition:fill 0.15s linear;transition:fill 0.15s linear;}/!*sc*/
.iMbvxE:hover{color:#505050;}/!*sc*/
data-styled.g87[id="sc-nbr0sq-6"]{content:"iMbvxE, "}/!*sc*/
.AZirp{display:-webkit-box;display:-webkit-flex;display:-ms-flexbox;display:flex;-webkit-box-pack:justify;-webkit-justify-content:space-between;-ms-flex-pack:justify;justify-content:space-between;background-color:#fff;padding:0.5rem 0.75rem;border-bottom:1px solid #dcdcdc;position:relative;z-index:4;-webkit-font-smoothing:antialiased;-moz-osx-font-smoothing:grayscale;}/!*sc*/
@media screen and (min-width:37.5em){.AZirp{padding:0.5rem 1rem;}}/!*sc*/
@media screen and (min-width:62em){.AZirp{padding:0 1.5rem;}}/!*sc*/
data-styled.g88[id="sc-e948u6-0"]{content:"AZirp, "}/!*sc*/
.iEiQWV{position:fixed;top:0;left:0;width:100%;}/!*sc*/
data-styled.g89[id="sc-e948u6-1"]{content:"iEiQWV, "}/!*sc*/
.eBRfdu{background-color:rgb(235 235 235 / 85%);position:fixed;top:0;right:0;bottom:0;le
```



```

ft:0;-webkit-transition:background-color:500ms,visibility:500ms;transition:background-color:500ms,visibility:500ms;visibility:hidden;z-index:3;}/*!sc*/
data-styled.g90[id="sc-e948u6-2"]{content:"eBRfdU,"}/*!sc*/
.iDLdAj{background-color:#fff;color:#0c7dbb;left:0.25rem;position:absolute;top:-999%;}/*!sc*/
.iDLdAj[data-focus-visible-added]{top:0.25rem;z-index:1;}/*!sc*/
data-styled.g91[id="sc-e948u6-3"]{content:"iDLdAj,"}/*!sc*/
.gOVuFF{display:-webkit-box;display:-webkit-flex;display:-ms-flexbox;display:flex;-webkit-align-items:center;-webkit-box-align:center;-ms-flex-align:center;align-items:center;position:relative;}/*!sc*/
data-styled.g92[id="sc-e948u6-4"]{content:"gOVuFF,"}/*!sc*/
.jtQDOm{display:-webkit-box;display:-webkit-flex;display:-ms-flexbox;display:flex;-webkit-flex-wrap:nowrap;-ms-flex-wrap:nowrap;flex-wrap:nowrap;-webkit-align-items:center;-webkit-box-align:center;-ms-flex-align:center;align-items:center;}/*!sc*/
data-styled.g93[id="sc-e948u6-5"]{content:"jtQDOm,"}/*!sc*/
.jLNEJF{-webkit-align-items:center;-webkit-box-align:center;-ms-flex-align:center;align-items:center;bottom:0;background-color:white;list-style:none;margin:0;padding:1.5rem 1rem;overflow-y:auto;-webkit-transition:-webkit-transform 0.3s ease;-webkit-transition:transform 0.3s ease;transition:transform 0.3s ease;-webkit-transform:translateX(100%);-ms-transform:translateX(100%);transform:translateX(100%);top:0;width:20em;position:fixed;right:0;}/*!sc*/
@media screen and (min-width:62em){.jLNEJF{background-color:transparent;display:-webkit-box;display:-webkit-flex;display:-ms-flexbox;display:flex;-webkit-flex-direction:row;-ms-flex-direction:row;flex-direction:row;position:relative;width:auto;-webkit-transform:none;-ms-transform:none;transform:none;height:initial;overflow-y:visible;padding:1.5rem 0;}/*!sc*/
data-styled.g94[id="sc-e948u6-6"]{content:"jLNEJF,"}/*!sc*/
.j0cueP{min-width:0;overflow:hidden;-webkit-box-flex:1;-webkit-flex-grow:1;-ms-flex-positive:1;flex-grow:1;}/*!sc*/
.j0cueP[data-subpage] > nav,.j0cueP[data-subpage] > main{padding:0 1rem;}/*!sc*/
@media screen and (min-width:37.5em){.j0cueP[data-subpage] > nav,.j0cueP[data-subpage] > main{padding:0 2rem;}/*!sc*/
data-styled.g95[id="sc-1g5fvti-0"]{content:"j0cueP,"}/*!sc*/
.fukXbF{background:white;padding-bottom:0.75rem;}/*!sc*/
data-styled.g96[id="sc-1g5fvti-1"]{content:"fukXbF,"}/*!sc*/
.cdVvBc{display:-webkit-box;display:-webkit-flex;display:-ms-flexbox;display:flex;-webkit-flex-direction:column;-ms-flex-direction:column;flex-direction:column;min-height:100vh;}/*!sc*/
data-styled.g97[id="sc-1g5fvti-2"]{content:"cdVvBc,"}/*!sc*/
.lgbLoo{color:#2e2e2e;font-family:"Elsevier Gulliver",Georgia,serif;font-size:1.5em;margin:0.75rem 0 0.5rem;width:100%;}/*!sc*/
data-styled.g98[id="sc-1nws10e-0"]{content:"lgbLoo,"}/*!sc*/
.bQNQKU{margin-top:3rem;padding-top:1rem;}/*!sc*/
data-styled.g99[id="sc-1nws10e-1"]{content:"bQNQKU,"}/*!sc*/
.gazhpM{padding:0 1rem;}/*!sc*/
@media screen and (min-width:61.25em){.gazhpM{padding:0;}/*!sc*/
data-styled.g100[id="sc-1nws10e-2"]{content:"gazhpM,"}/*!sc*/
.VQbJA{display:-webkit-box;display:-webkit-flex;display:-ms-flexbox;display:flex;-webkit-flex-wrap:wrap;-ms-flex-wrap:wrap;flex-wrap:wrap;}/*!sc*/
data-styled.g101[id="sc-1nws10e-3"]{content:"VQbJA,"}/*!sc*/
.cviXWN{width:13.75em;}/*!sc*/
data-styled.g102[id="sc-1nws10e-4"]{content:"cviXWN,"}/*!sc*/
.hugDdc{color:#505050;margin-right:0.5rem;}/*!sc*/
data-styled.g103[id="sc-1nws10e-5"]{content:"hugDdc,"}/*!sc*/
.fhoAiN{list-style:none;margin:0 1rem 2rem 0;padding:0;}/*!sc*/
.fhoAiN li{line-height:1.35;margin-bottom:0.75rem;}/*!sc*/
data-styled.g104[id="sc-1nws10e-6"]{content:"fhoAiN,"}/*!sc*/
.esiGMQ{color:#505050;}/*!sc*/
data-styled.g105[id="sc-1nws10e-7"]{content:"esiGMQ,"}/*!sc*/
.cRFLRd{margin:1rem 0 0.5rem;}/*!sc*/
.cRFLRd > *{margin-right:1rem;margin-bottom:0;}/*!sc*/
data-styled.g106[id="sc-1f27thb-0"]{content:"cRFLRd,"}/*!sc*/
.eTISqs{display:grid;grid-template-columns:1fr;grid-auto-rows:auto;-webkit-column-gap:2rem;column-gap:2rem;row-gap:1rem;grid-template-areas:'cover' 'header' 'content';}/*!sc*/

```

```
@media screen and (min-width:43.75em){.eTISqs{grid-gap:2rem;grid-template-columns:auto 1fr;grid-template-areas:'cover header' 'cover content';}}/*!sc*/
data-styled.g107[id="sc-orrwe2-0"]{content:"eTISqs,"}/*!sc*/
.dZFiMY{display:none;grid-area:cover;}/*!sc*/
@media screen and (min-width:43.75em){.dZFiMY{display:block;}}/*!sc*/
data-styled.g108[id="sc-orrwe2-1"]{content:"dZFiMY,"}/*!sc*/
.fCHAcD{grid-area:header;border-bottom:1px solid #dcdcdc;}/*!sc*/
data-styled.g109[id="sc-orrwe2-2"]{content:"fCHAcD,"}/*!sc*/
.gPmFkB{grid-area:content;}/*!sc*/
data-styled.g110[id="sc-orrwe2-3"]{content:"gPmFkB,"}/*!sc*/
.ySxek{margin-top:0.5rem;}/*!sc*/
.fonts-loaded .sc-orrwe2-4{font-family:"Elsevier Display",Arial,sans-serif;font-weight:300;}/*!sc*/
data-styled.g111[id="sc-orrwe2-4"]{content:"ySxek,"}/*!sc*/
.jUaFts{color:#2e2e2e;font-family:"Elsevier Gulliver",Georgia,serif;font-size:1.5em;margin:0 0 0.5rem;}/*!sc*/
data-styled.g112[id="sc-orrwe2-5"]{content:"jUaFts,"}/*!sc*/
.dtzDFi{display:-webkit-box;display:-webkit-flex;display:-ms-flexbox;display:flex;-webkit-flex-wrap:wrap;-ms-flex-wrap:wrap;flex-wrap:wrap;margin:0.75rem 0;}/*!sc*/
.dtzDFi > *{margin-right:0.75rem;}/*!sc*/
data-styled.g113[id="sc-orrwe2-6"]{content:"dtzDFi,"}/*!sc*/
.jbCSRa{background-color:#f5f5f5;}/*!sc*/
data-styled.g114[id="sc-orrwe2-7"]{content:"jbCSRa,"}/*!sc*/
.eOytAu{max-width:60em;margin:calc(1.5rem + 0.25rem) auto 2rem;}/*!sc*/
data-styled.g382[id="sc-15ho9eu-0"]{content:"eOytAu,"}/*!sc*/
.bqTbOd{margin:0.75rem 0 3rem;font-size:1.25em;max-width:35em;}/*!sc*/
data-styled.g383[id="sc-15ho9eu-1"]{content:"bqTbOd,"}/*!sc*/
</style></head><body><noscript><iframe height="0" src="https://www.googletagmanager.com/ns.html?id=GTM-TL4HMX5" style="display: none; visibility: hidden;" width="0"></iframe></noscript><div id="__next"><div class="sc-1g5fvti-2 cdVvBc"><header class="sc-e948u6-0 AZirp" role="banner"><a class="sc-e948u6-3 iDLdAj" href="#skip-to-content-anchor">Skip to content</a><a class="sc-1lwlasb-0 dyvnmg" href="http://www.elsevier.com"><div class="sc-1lwlasb-1 sc-1lwlasb-2 Cioql ldtKVU"><span style="box-sizing: border-box; display: block; overflow: hidden; width: initial; height: initial; background: none; opacity: 1; border: 0px; margin: 0px; padding: 0px; position: absolute; top: 0px; left: 0px; bottom: 0px; right: 0px;"><noscript></noscript></span></div><div class="sc-1lwlasb-1 sc-1lwlasb-3 Cioql fzwpcz"><span style="box-sizing: border-box; display: block; overflow: hidden; width: initial; height: initial; background: none; opacity: 1; border: 0px; margin: 0px; padding: 0px; position: absolute; top: 0px; left: 0px; bottom: 0px; right: 0px; box-sizing: border-box; padding: 0px; border: none; margin: auto; display: block; width: 0px; height: 0px; min-width: 100%; max-width: 100%; min-height: 100%; max-height: 100%; object-fit: contain; object-position: left center;"></span></div></div></body></html>
```

argin: 0px; padding: 0px; position: absolute; top: 0px; bottom: 0px; right: 0px; left: 0px; box-sizing: border-box; padding: 0px; border: none; margin: auto; display: block; width: 0px; height: 0px; min-width: 100%; max-width: 100%; min-height: 100%; max-height: 100%; object-fit: contain; object-position: left center;"/><noscript></noscript></noscript></div><nav aria-label="Main Navigation" class="sc-e948u6-4 g0VuFF" role="navigation"><div class="sc-e948u6-5 jtQD0m"><ul class="sc-e948u6-6 jLNEJF"><li class="sc-vyngc7-0 iJdaFT"><p class="sc-1q3g1nv-0 sc-vyngc7-1 eTETae jKSCeA">Sign in to view your account details and order history</p>Sign in<button class="sc-1qzfzkl-0 sc-1uz32rr-5 hQPrvi kEzLkc"><svg aria-label="Close Navigation" class="sc-vyngc7-2 fuFVHx" height="1em" viewBox="0 0 357 357" width="1em"><path d="M357 35.7L321.3 0 178.5 142.8 35.7 0 0 35.7l142.8 142.8L0 321.3 35.7 357l142.8-142.8L321.3 357l35.7-35.7-142.8-142.8z" fill="currentColor"></path></svg></button><li class="sc-gvqsvo-0 sc-gvqsvo-5 LYYST eTXxtX"><h3 class="sc-1qrq3sd-2 sc-gvqsvo-1 iBQUpF hUPkBI">About Elsevier</h3><div class="sc-gvqsvo-2 hdZLuu"><ul class="sc-gvqsvo-3 doOp0n"><li class="sc-gvqsvo-4 dYBQLb">About us<li class="sc-gvqsvo-4 dYBQLb">Elsevier Connect<li class="sc-gvqsvo-4 dYBQLb">Careers</div><li class="sc-gvqsvo-0 sc-gvqsvo-6 LYYST cWkpUK"><div class="sc-1fdbg4d-0 grcxMK"><button aria-expanded="false" class="sc-1qzfzkl-0 sc-1fdbg4d-8 hQPrvi ewtwcb">About Elsevier</button><div class="sc-1fdbg4d-2 sc-1fdbg4d-3 dZzYzL gnRPaP" data-align="left" hidden=""><ul class="sc-1fdbg4d-4 sc-1fdbg4d-5 gVBpEc fWJIJp"><li class="sc-1fdbg4d-6 sc-1fdbg4d-7 dTlWdR LGFeA">About us<li class="sc-1fdbg4d-6 sc-1fdbg4d-7 dTlWdR LGFeA">Elsevier Connect<li class="sc-1fdbg4d-6 sc-1fdbg4d-7 dTlWdR LGFeA">Careers</div><li class="sc-gvqsvo-0 sc-gvqsvo-5 LYYST eTXxtX"><h3 class="sc-1qrq3sd-2 sc-gvqsvo-1 iBQUpF hUPkBI">Products & Solutions</h3><div class="sc-gvqsvo-2 hdZLuu"><ul class="sc-gvqsvo-3 doOp0n"><li class="sc-gvqsvo-4 dYBQLb">R & D Solutions<li class="sc-gvqsvo-4 dYBQLb">Clinical Solutions<li class="sc-gvqsvo-4 dYBQLb"><a class="sc-kvjqii-0 fYuYRT sc-12m3iqn-0 bXyrv

ttton aria-expanded="false" class="sc-1qzfzkl-0 sc-1fdbg4d-8 hQPrvi ewtwhcb">Shop & Discover</button><div class="sc-1fdbg4d-2sc-1fdbg4d-3 dZyZyL gnRPaP" data-align="left" hidden=""><ul class="sc-1fdbg4d-4 sc-1fdbg4d-5 gVBpEc fwJIJp"><li class="sc-1fdbg4d-6 sc-1fdbg4d-7 dTlWdR LGFeA">Books & Journals<li class="sc-1fdbg4d-6 sc-1fdbg4d-7 dTlWdR LGFeA">Author Webshop <svg aria-hidden="true" height="1em" viewBox="0 0 14 14" width="1em" xmlns="http://www.w3.org/2000/svg"><path d="M.445 1.829H10.9L0 12.705 1.294 14 12.167 3.149v10.38H14V0H.445z" fill="currentColor" fill-rule="nonzero"></path></svg></div></div><ul class="sc-1uz32rr-0 jdZJJA"><li class="sc-1uz32rr-1 kQunip"><button aria-controls="react-collapsed-panel-undefined" aria-expanded="false" class="sc-1qzfzkl-0 sc-1dvbwt1-1 hQPrvi iScfRi" id="react-collapsed-toggle-undefined" role="button" tabindex="0" type="button"><div class="sc-1dvbwt1-2 kfquv0">Search<svg class="sc-1dvbwt1-0 bqGuKi" height="1em" preserveaspectratio="xMinYMax meet" viewBox="12 8 55 60" width="1em"><path d="M65.6 62L52 48.4c2.9-3.7 4.5-8.2 4.5-13 0-5.6-2.2-10.9-6.2-14.9s-9.3-6.2-14.9-6.2-10.9 2.2-14.9 6.2-6.2 9.3-6.2 14.9 2.2 10.9 6.2 14.9 9.3 6.2 14.9 6.2c4.8 0 9.3-1.6 13-4.5L62 65.6l3.6-3.6zM24.1 46.7c-3-3-4.7-7-4.7-11.3 0-4.3 1.7-8.3 4.7-11.3s7-4.7 11.3-4.7c4.3 0 8.3 1.7 11.3 4.7s4.7 7 4.7 11.3c0 4.3-1.7 8.3-4.7 11.3s-7 4.7-11.3 4.7c-4.3 0-8.3-1.7-11.3-4.7z" fill="currentColor"></path></svg></div></button><li class="sc-1uz32rr-1 kQunip"><svg aria-label="View Cart" height="1em" viewBox="0 0 64 64" width="1em"><path d="M18.82 10c-1.112-3-4.467-6-8.308-6h-9.3v5h9.3c1.97 0 3.7 1.612 3.7 3.452v28.52c0 4.577 3.57 8.031 8.3 8.031h33.7v-5h-33.7c-2.005 0-3.3-1.191-3.3-3.031v-25.98h35.6c-.385 5-.95 11.89-1.216 13.64-.274 1.808-1.98 3.14-4.451 3.477-2.796.383-17.34 2.057-23.93 2.855V40c6.274-.76 21.65-2.536 24.61-2.94 4.685-.642 8.107-3.66 8.716-7.687.425-2.811 1.421-16.12 1.464-16.69l.2-2.685h-41.38m32.4 42c-2.764 0-5 2.238-5 5s2.236 5 5 5a5.001 5.001 0 000-10m-32 0c-2.763 0-5 2.238-5 5a5 5 0 1010 0 5 5 0 00-5-5" fill="currentColor"></path></svg><li class="sc-1uz32rr-1 sc-1uz32rr-2 kQunip isxohE"><svg aria-label="View Account" height="1em" viewBox="0 0 106 128" width="1em"><path d="M11.07 120l.84-9.29C13.88 91.92 35.25 87.78 53 87.78c17.74 0 39.11 4.13 41.08 22.84l.84 9.38h10.04l-.93-10.34C101.88 89.23 83.89 78 53 78S4.11 89.22 1.95 109.73L1.04 120h10.03M53 17.71c-9.72 0-18.24 8.69-18.24 18.59 0 13.67 7.84 23.98 18.24 23.98S71.24 49.97 71.24 36.3c0-9.9-8.52-18.59-18.24-18.59zM53 70c-15.96 0-28-14.48-28-33.67C25 20.97 37.82 8 53 8s28 12.97 28 28.33C81 55.52 68.96 70 53 70" fill="currentColor"></path></svg><li class="sc-1uz32rr-1 sc-1uz32rr-3 kQunip fjIepc"><button class="sc-1qzfzkl-0 sc-1uz32rr-5 hQPrvi kEZLkc"><svg aria-label="Open Navigation" class="icon-menu_svg__utility-icon" height="1em" width="1em" xmlns="http://www.w3.org/2000/svg"><path d="M0 14h40v2H0zm0-7h40v2H0zm0-7h40v2H0z" fill="currentColor"></path></svg></button></div></nav><div aria-hidden="true" class="sc-nbr0sq-0 iCwJnF" id="react-collapsed-panel-undefined" style="box-sizing: border-box; display: none; height: 0px; overflow: hidden;"><div class="sc-1dxr8k6-0 lhCPPw"><form autocomplete="off" class="sc-nbr0sq-1 iPBpEs" role="search"><label class="sc-nbr0sq-3 lef0Xt" for="search-input">Search by keyword, title, subject area</label><div class="sc-nbr0sq-2 jRjTLz"><input class="sc-nbr0sq-4 CJUyz" id="search-input" type="search" value=""><button class="sc-nbr0sq-6 iMbvxE" id="clear-search-input" title="Clear search" type="button"><svg height="1em" viewBox="0 0 357 357" width="1em"><path d="M357 35.7L321.3 0 178.5 142.8 35.7 0 0 35.7l142.8 142.8L0 321.3 35.7 357l142.8-142.8L321.3 357l35.7-35.7-142.8-142.8z" fill="currentColor"></path></svg></button><button class="sc-nbr0sq-5 bwhAfp" title="Search" type="submit"><svg height="1em" preserveaspectratio="xMinYMax meet" viewBox="12 8 55 60" width="1em"><path d="M65.6 62L52 48.4c2.9-3.7 4.5-8.2 4.5-13 0-5.6-2.2-10.9-6.2-14.9s-9.3-6.2-14.9-6.2-10.9 2.2-14.9 6.2-6.2 9.3-6.2 14.9 2.2 10.9 6.2 14.9 9.3 6.2 14.9 6.2c4.8 0 9.3-1.6 13-4.5L62 65.6l3.6-3.6zM24.1 46.7c-3-3-4.7-7-4.7-11.3 0-4.3 1.7-8.3 4.7-11.3s7-4.7 11.3-4.7c4.3 0 8.3 1.7 11.3 4.7s4.7 7 4.7 11.3c0 4.3-1.7 8.3-4.7 11.3s-7 4.7-11.3 4.7c-4.3 0-8.3-1.7-11.3-4.7z" fill="currentColor"></path></svg></button></div></form></div></div><div class="sc-e948u6-1 iEiQWV"><div class="sc-dc2toh-0 fwlycu sc-29krko-8 iQzzfb" display="none" opacity="0"><div class="sc-29krko-0 jdxuot"><div class="sc-1dxr8k6-0 sc-29krko-3 lhCPPw PQfhP"><div class="sc-uosj0-0 AcWHR sc-29krko-9 RNqSW"><div class="sc-uosj0-1 fAiWUX"></div></div><h3 class="sc-29krko-1 edcyFL">Artificial Intelligence</h3><dl class="sc-29krko-4 jETNdX sc-29krko-7 dnrrWg"><div class="sc-29krko-5 goAMSJ"><dt>Impact Factor</dt><dd class="sc-29krko-6 bBznbl">9.088</dd></div><div cla

ss="sc-29krko-5 gOAMsJ"><dt>CiteScore</dt><dd class="sc-29krko-6 bZbnbl">8.3</dd></div>
</div><div class="sc-29krko-2 lcqMeI">View articlesSubmit your paper</div></div></div></div></div></div></div></div><div class="sc-e948u6-2 eBRfdU"></div><div class="sc-1g5fvti-0 j0cueP" data-subpage="" id="skip-to-content-anchor"><nav aria-label="Breadcrumbs" class="sc-yuedcl-0 cFSZAH sc-15ho9eu-0 e0ytAu"><ol itemscope="" itemtype="https://schema.org/BreadcrumbList"><li itemprop="itemListElement" itemscope="" itemtype="https://schema.org/ListItem">Home<meta content="1" itemprop="position"/><li itemprop="itemListElement" itemscope="" itemtype="https://schema.org/ListItem">Journals<meta content="2" itemprop="position"/><li itemprop="itemListElement" itemscope="" itemtype="https://schema.org/ListItem">Artificial Intelligence<meta content="3" itemprop="position"/><li itemprop="itemListElement" itemscope="" itemtype="https://schema.org/ListItem">Most Downloaded Articles<meta content="4" itemprop="position"/></nav><main class="sc-1dxr8k6-0 sc-orwwe2-0 lhCPPw eTISqs"><div class="sc-orwwe2-1 dZFiMY"><div class="sc-uosj0-0 AcWHR"><p class="sc-1q3g1nv-0 sc-jsgros-0 eTETae ddyzPP">ISSN: 0004-3702</p></div></div><header class="sc-orwwe2-2 fCHAcD"><p class="sc-orwwe2-5 jUaFts">Artificial Intelligence</p><div class="sc-orwwe2-6 dtzDFi">Submit your PaperView Articles</div><div class="sc-1f27thb-0 cRFLRd"><svg aria-hidden="true" focusable="false" height="1em" viewBox="0 0 14 14" width="1em" xmlns="http://www.w3.org/2000/svg"><path d="M.445 1.829H10.9L0 12.705 1.294 14 12.167 3.149v10.38H14V0H.445z" fill="currentColor" fill-rule="nonzero"></path></svg>Guide for authors<div class="sc-1fdbg4d-0 grcxMK"><button aria-expanded="false" class="sc-1qzfzkl-0 sc-1fdbg4d-8 hQPrvi" data-aa-name="Track your paper" data-aa-region="header">Track your paper<svg aria-hidden="true" class="sc-1fdbg4d-1 qRtBA" focusable="false" height="1em" viewBox="0 0 9 15" width="1em"><path d="M.156 13.469L6.094 7.53 1.594 1.25 5.17 0.31 7.031 7.031 7.032z" fill="currentColor" fill-rule="nonzero"></path></svg></button><div class="sc-1fdbg4d-2 sc-1fdbg4d-3 dZzYzL eG0xd0" data-align="left" hidden=""><ul class="sc-1fdbg4d-4 sc-1fdbg4d-5 gVBpEc"><li class="sc-1fdbg4d-6 sc-1fdbg4d-7 dTlWdR"><svg aria-hidden="true" focusable="false" height="1em" viewBox="0 0 14 14" width="1em" xmlns="http://www.w3.org/2000/svg"><path d="M.445 1.829H10.9L0 12.705 1.294 14 12.167 3.149v10.38H14V0H.445z" fill="currentColor" fill-rule="nonzero"></path></svg>Check submitted paper<li class="sc-1fdbg4d-6 sc-1fdbg4d-7 dTlWdR"><svg aria-hidden="true" focusab

le="false" height="1em" width="1em" viewBox="0 0 14 14" width="1em" xmlns="http://www.w3.org/2000/svg"><path d="M.445 1.829H10.9L0 12.705 1.294 14 12.167 3.149v10.38H14V0H.445z" fill="currentColor" fill-rule="nonzero"></path></svg>Track accepted paper</div></div><svg aria-hidden="true" focusable="false" height="1em" viewBox="0 0 14 14" width="1em" xmlns="http://www.w3.org/2000/svg"><path d="M.445 1.829H10.9L0 12.705 1.294 14 12.167 3.149v10.38H14V0H.445z" fill="currentColor" fill-rule="nonzero"></path></svg>Order journal</div></header><div class="sc-orwwe2-3 gPmFkB"><h1 class="sc-1qrq3sd-0 sc-orwwe2-4 hCLuBN ysXeK">Most Downloaded Articles</h1><p class="sc-1q3g1nv-0 sc-15ho9eu-1 eTETae bQtb0d">The most downloaded articles from Artificial Intelligence in the last 90 days.</p><ul class="sc-9zxyh7-0 ffmPq"><li class="sc-9zxyh7-1 sc-9zxyh7-2 exAXfr jQmQZp"><article><h2 class="sc-1qrq3sd-1 MKjKb sc-1nmom32-0 sc-1nmom32-1 hqhUYH ebTA-dR">Reward is enough</h2><p class="sc-1thf9ly-0 sc-1thf9ly-1 ljBYfY bIzabL">Silver, David, Singh, Satinder, Precup, Doina, Sutton, Richard S. Open AccessOctober 2021</p></article><li class="sc-9zxyh7-1 sc-9zxyh7-2 exAXfr jQmQZp"><article><h2 class="sc-1qrq3sd-1 MKjKb sc-1nmom32-0 sc-1nmom32-1 hqhUYH ebTA-dR">Making sense of raw input</h2><p class="sc-1thf9ly-0 sc-1thf9ly-1 ljBYfY bIzabL">Evans, Richard, Bošnjak, Matko and 5 moreOpen AccessOctober 2021</p></article><li class="sc-9zxyh7-1 sc-9zxyh7-2 exAXfr jQmQZp"><article><h2 class="sc-1qrq3sd-1 MKjKb sc-1nmom32-0 sc-1nmom32-1 hqhUYH ebTA-dR">Law and logic: A review from an argumentation perspective</h2><p class="sc-1thf9ly-0 sc-1thf9ly-1 ljBYfY bIzabL">Prakken, Henry, Sartor, Giovanni Open AccessOctober 2015</p></article><li class="sc-9zxyh7-1 sc-9zxyh7-2 exAXfr jQmQZp"><article><h2 class="sc-1qrq3sd-1 MKjKb sc-1nmom32-0 sc-1nmom32-1 hqhUYH ebTA-dR">Creativity and artificial intelligence</h2><p class="sc-1thf9ly-0 sc-1thf9ly-1 ljBYfY bIzabL">Boden, Margaret A. Open AccessAugust 1998</p></article><li class="sc-9zxyh7-1 sc-9zxyh7-2 exAXfr jQmQZp"><article><h2 class="sc-1qrq3sd-1 MKjKb sc-1nmom32-0 sc-1nmom32-1 hqhUYH ebTA-dR">Artificial cognition for social human-robot interaction: An implementation</h2><p class="sc-1thf9ly-0 sc-1thf9ly-1 ljBYfY bIzabL">Lemaignan, Séverin, Warnier, Mathieu and 3 moreOpen AccessJune 2017</p></article><li class="sc-9zxyh7-1 sc-9zxyh7-2 exAXfr jQmQZp"><article><h2 class="sc-1qrq3sd-1 MKjKb sc-1nmom32-0 sc-1nmom32-1 hqhUYH ebTA-dR">Explanation in artificial intelligence: Insights from the social sciences</h2><p class="sc-1thf9ly-0 sc-1thf9ly-1 ljBYfY bIzabL">Miller, Tim February 2019</p></article><li class="sc-9zxyh7-1 sc-9zxyh7-2 exAXfr jQmQZp"><article><h2 class="sc-1qrq3sd-1 MKjKb sc-1nmom32-0 sc-1nmom32-1 hqhUYH ebTA-dR">Making sense of sensory input</h2><p class="sc-1thf9ly-0 sc-1thf9ly-1 ljBYfY bIzabL">Evans, Richard, Hernández-Orallo, José and 3 moreOpen AccessApril 2021</p></article><li class="sc-9zxyh7-1 sc-9zxyh7-2 exAXfr jQmQZp"><article><h2 class="sc-1qrq3sd-1 MKjKb sc-1nmom32-0 sc-1nmom32-1 hqhUYH ebTA-dR">Conflict-based search for optimal multi-agent pathfinding</h2><p class="sc-1thf9ly-0 sc-1thf9ly-1 ljBYfY bIzabL">Sharon, Guni, Stern, Roni, Felner, Ariel, Sturtevant, Nathan R. Open AccessFebruary 2015</p></article><li class="sc-9zxyh7-1 sc-9zxyh7-2 exAXfr jQmQZp"><article><h2 class="sc-1qrq3sd-1 MKjKb sc-1nmom32-0 sc-1nmom32-1 hqhUYH

ebTA-dR">Between MDPs and semi-MDPs: A framework for temporal abstraction in reinforcement learning</h2><p class="sc-1thf9ly-0 sc-1thf9ly-1 ljBYfY bIzabL">Sutton, Richard S., Precup, Doina, Singh, Satinder Open AccessAugust 1999</p></article><li class="sc-9zxyh7-1 sc-9zxyh7-2 exAXfr jQmQZp"><article><h2 class="sc-1qrq3sd-1 MKjKb sc-1nmom32-0 sc-1nmom32-1 hqhUYH ebTA-dR">The Hanabi challenge: A new frontier for AI research</h2><p class="sc-1thf9ly-0 sc-1thf9ly-1 ljBYfY bIzabL">Bard, Nolan, Foerster, Jakob N. and 13 moreOpen AccessMarch 2020</p></article><li class="sc-9zxyh7-1 sc-9zxyh7-2 exAXfr jQmQZp"><article><h2 class="sc-1qrq3sd-1 MKjKb sc-1nmom32-0 sc-1nmom32-1 hqhUYH ebTA-dR">Evaluating XAI: A comparison of rule-based and example-based explanations</h2><p class="sc-1thf9ly-0 sc-1thf9ly-1 ljBYfY bIzabL">van der Waa, Jasper, Nieuwburg, Elisabeth, Cremers, Anita, Neerincx, Mark Open AccessFebruary 2021</p></article><li class="sc-9zxyh7-1 sc-9zxyh7-2 exAXfr jQmQZp"><article><h2 class="sc-1qrq3sd-1 MKjKb sc-1nmom32-0 sc-1nmom32-1 hqhUYH ebTA-dR">Argumentation in artificial intelligence</h2><p class="sc-1thf9ly-0 sc-1thf9ly-1 ljBYfY bIzabL">Bench-Capon, T.J.M., Dunne, Paul E. Open AccessOctober 2007</p></article><li class="sc-9zxyh7-1 sc-9zxyh7-2 exAXfr jQmQZp"><article><h2 class="sc-1qrq3sd-1 MKjKb sc-1nmom32-0 sc-1nmom32-1 hqhUYH ebTA-dR">Algorithms for computing strategies in two-player simultaneous move games</h2><p class="sc-1thf9ly-0 sc-1thf9ly-1 ljBYfY bIzabL">Bošanský, Branislav, Lisý, Viliam and 3 moreOpen AccessAugust 2016</p></article><li class="sc-9zxyh7-1 sc-9zxyh7-2 exAXfr jQmQZp"><article><h2 class="sc-1qrq3sd-1 MKjKb sc-1nmom32-0 sc-1nmom32-1 hqhUYH ebTA-dR">Multiple object tracking: A literature review</h2><p class="sc-1thf9ly-0 sc-1thf9ly-1 ljBYfY bIzabL">Luo, Wenhan, Xing, Junliang and 4 moreApril 2021</p></article><li class="sc-9zxyh7-1 sc-9zxyh7-2 exAXfr jQmQZp"><article><h2 class="sc-1qrq3sd-1 MKjKb sc-1nmom32-0 sc-1nmom32-1 hqhUYH ebTA-dR">Selection of relevant features and examples in machine learning</h2><p class="sc-1thf9ly-0 sc-1thf9ly-1 ljBYfY bIzabL">Blum, Avrim L., Langley, Pat Open AccessDecember 1997</p></article><li class="sc-9zxyh7-1 sc-9zxyh7-2 exAXfr jQmQZp"><article><h2 class="sc-1qrq3sd-1 MKjKb sc-1nmom32-0 sc-1nmom32-1 hqhUYH ebTA-dR">A survey of inverse reinforcement learning: Challenges, methods and progress</h2><p class="sc-1thf9ly-0 sc-1thf9ly-1 ljBYfY bIzabL">Arora, Saurabh, Doshi, Prashant August 2021</p></article><li class="sc-9zxyh7-1 sc-9zxyh7-2 exAXfr jQmQZp"><article><h2 class="sc-1qrq3sd-1 MKjKb sc-1nmom32-0 sc-1nmom32-1 hqhUYH ebTA-dR">Explaining individual predictions when features are dependent: More accurate approximations to Shapley values</h2><p class="sc-1thf9ly-0 sc-1thf9ly-1 ljBYfY bIzabL">Aas, Kjersti, Jullum, Martin, Løland, Anders Open AccessSeptember 2021</p></article><li class="sc-9zxyh7-1 sc-9zxyh7-2 exAXfr jQmQZp"><article><h2 class="sc-1qrq3sd-1 MKjKb sc-1nmom32-0 sc-1nmom32-1 hqhUYH ebTA-dR">A review of possible effects of cognitive biases on interpretation of rule-based machine learning models</h2><p class="sc-1thf9ly-0 sc-1thf9ly-1 ljBYfY bIzabL">Kliegr, Tomáš, Bahník, Štěpán, Fürnkranz, Johannes Open AccessJune 2021</p></article><li class="sc-9zxyh7-1 sc-9zxyh7-2 exAXfr jQmQZp"><article><h2 class="sc-1qrq3sd-1 MKjKb sc-1nmom32-0 sc-1nmom32-1 hqhUYH ebTA-dR">Integrating social power into the decision-making of cognitive agents</h2><p class="sc-1thf9ly-0 sc-1thf9ly-1 ljBYfY bIzabL">Kliegr, Tomáš, Bahník, Štěpán, Fürnkranz, Johannes Open AccessJune 2021</p></article><li class="sc-9zxyh7-1 sc-9zxyh7-2 exAXfr jQmQZp"><article><h2 class="sc-1qrq3sd-1 MKjKb sc-1nmom32-0 sc-1nmom32-1 hqhUYH ebTA-dR">Integrating social power into the decision-making of cognitive agents</h2><p class="sc-1thf9ly-0 sc-1thf9ly-1 ljBYfY bIzabL">Kliegr, Tomáš, Bahník, Štěpán, Fürnkranz, Johannes Open AccessJune 2021</p></article></div>

1ly-0 sc-1thf9ly-1 ljBYfY bIzabL">Pereira, Gonçalves, Pra
da, Rui, Santos, Pedro A. Open Access<
span>December 2016</p></article><li class="sc-9zxyh7-1 sc-9zxyh7-2 ex
AXfr jQmQZp"><article><a class="sc-5smylv-0 nrDZj" href="https://www.sciencedirect.com/s
cience/article/pii/S0004370221000588"><h2 class="sc-1qrq3sd-1 MKjKb sc-1nmom32-0 sc-1nmo
m32-1 hqhUYH ebTA-dR">"That's (not) the output I expected!" On the role of end user expe
ctations in creating explanations of AI systems</h2><p class="sc-1thf9ly-0 sc-1thf9l
y-1 ljBYfY bIzabL">Riveiro, Maria, Thill, Serge
Open AccessSeptember 2021
</p></article><li class="sc-9zxyh7-1 sc-9zxyh7-2 exAXfr jQmQZp"><article><a class
="sc-5smylv-0 nrDZj" href="https://www.sciencedirect.com/science/article/pii/S0004370221
000102"><h2 class="sc-1qrq3sd-1 MKjKb sc-1nmom32-0 sc-1nmom32-1 hqhUYH ebTA-dR">Explaini
ng black-box classifiers using post-hoc explanations-by-example: The effect of explanati
ons and error-rates in XAI user studies</h2><p class="sc-1thf9ly-0 sc-1thf9ly-1 ljBY
fY bIzabL">Kenny, Eoin M., Ford, Courtney, Quinn, Moll
y, Keane, Mark T. Open AccessMay
2021</p></article><li class="sc-9zxyh7-1 sc-9zxyh7-2 exAXfr jQmQZp"><
article><a class="sc-5smylv-0 nrDZj" href="https://www.sciencedirect.com/science/articl
e/pii/S0004370213001082"><h2 class="sc-1qrq3sd-1 MKjKb sc-1nmom32-0 sc-1nmom32-1 hqhUYH
ebTA-dR">Algorithm runtime prediction: Methods & evaluation</h2><p class="sc-1t
hf9ly-0 sc-1thf9ly-1 ljBYfY bIzabL">Hutter, Frank, Xu,
Lin, Hoos, Holger H., Leyton-Brown, Kevin Open Access<span class="sc-1t
hf9ly-2 bKddwo">January 2014</p></article><li class="sc-9zxyh7-
1 sc-9zxyh7-2 exAXfr jQmQZp"><article><a class="sc-5smylv-0 nrDZj" href="https://www.sci
encedirect.com/science/article/pii/S000437029700043X"><h2 class="sc-1qrq3sd-1 MKjKb sc-1
nmom32-0 sc-1nmom32-1 hqhUYH ebTA-dR">Wrappers for feature subset selection</h2><p c
lass="sc-1thf9ly-0 sc-1thf9ly-1 ljBYfY bIzabL">Kohavi,
Ron, John, George H. Open Access<span
>December 1997</p></article><li class="sc-9zxyh7-1 sc-9zxyh7-2 exAXfr
jQmQZp"><article><a class="sc-5smylv-0 nrDZj" href="https://www.sciencedirect.com/scienc
e/article/pii/S0004370221000734"><h2 class="sc-1qrq3sd-1 MKjKb sc-1nmom32-0 sc-1nmom32-1
hqhUYH ebTA-dR">Commonsense visual sensemaking for autonomous driving - On generalised n
eurosymbolic online abduction integrating vision and semantics</h2><p class="sc-1thf
9ly-0 sc-1thf9ly-1 ljBYfY bIzabL">Suchan, Jakob, Bhatt,
Mehul, Varadarajan, Srikrishna Open Access<span class="sc-1thf9ly-2 bKdd
wo">October 2021</p></article><li class="sc-9zxyh7-1 sc-9zxyh7-
2 exAXfr jQmQZp"><article><a class="sc-5smylv-0 nrDZj" href="https://www.sciencedirect.c
om/science/article/pii/S0004370209001398"><h2 class="sc-1qrq3sd-1 MKjKb sc-1nmom32-0 sc-
1nmom32-1 hqhUYH ebTA-dR">Quantum computation, quantum theory and AI</h2><p class="s
c-1thf9ly-0 sc-1thf9ly-1 ljBYfY bIzabL">Ying, Mingsheng
Open AccessFebruary 2010
</p></article></div></main><aside class="sc-1nws10e-1 bQNQKU sc-orwwe2-
7 jbCSRa"><div class="sc-1dxr8k6-0 sc-1nws10e-2 lhCPPw gazhpm"><p class="sc-1nws10e-0 lg
bLoo">Artificial Intelligence</p><div class="sc-1nws10e-3 VQbJA"><div class="sc-1nws10e-
4 cviXWN"><p class="sc-1nws10e-5 hugDdc">Readers</p><ul class="sc-1nws10e-6 fhoAiN">
<a class="sc-kvjqii-0 fYuYRT" href="https://www.sciencedirect.com/science/journal/000437
02" rel="noopener noreferrer" target="_blank">View Articles<a
class="sc-kvjqii-0 fYuYRT" href="https://www.sciencedirect.com/user/alerts" rel="noopen
er noreferrer" target="_blank">Volume/Issue Alert<a class="sc-
kvjqii-0 fYuYRT" href="https://www.sciencedirect.com/user/register?utm_campaign=sd_recom
mender_ELSJLS&utm_channel=elseco&utm_dgid=sd_recommender_ELSJLS" rel="noopener norefe
rrer" target="_blank">Personalized Recommendations</div><di
v class="sc-1nws10e-4 cviXWN"><a class="sc-kvjqii-0 fYuYRT sc-1nws10e-7 esiGMQ" href="ht
tp://www.elsevier.com/authors/home" rel="noopener noreferrer" target="_self"><p cl
ass="sc-1nws10e-5 hugDdc">Authors</p><svg aria-h
idden="true" focusable="false" height="1em" viewBox="0 0 9 15" width="1em"><path d="M.15
6 13.469L6.094 7.53156 1.594 1.25517.031 7.031-7.031 7.0322" fill="currentColor" fill-
rule="nonzero"></path></svg><ul class="sc-1nws10e-6 fhoAiN"><a class="sc-
kvjqii-0 fYuYRT" href="https://www.editorialmanager.com/artint/default.aspx" rel="noopen
er noreferrer" target="_blank">Submit your Paper<a class="sc-k
vjqii-0 fYuYRT" href="https://www.editorialmanager.com/artint/default.aspx" rel="noopen
er noreferrer" target="_blank">Check Submitted Paper<a class="s
c-kvjqii-0 fYuYRT" href="https://researcheracademy.elsevier.com" rel="noopener noreferre
r" target="_self">Researcher Academy<a class="sc-kvjqii-0 fYuY

RT" href="https://www.elsevier.com/about/policies/copyright/copyright" rel="noopener noreferrer" target="_self">Rights and PermissionsElsevier Author ServicesSupport CenterTrack Accepted Paper</div><div class="sc-1nws10e-4 cviXWN"><p class="sc-1nws10e-5 hugDdc">Librarians</p><svg aria-hidden="true" focusable="false" height="1em" viewBox="0 0 9 15" width="1em"><path d="M.156 13.469L6.094 7.53156 1.594 1.25517.031 7.031-7.031 7.032z" fill="currentColor" fill-rule="nonzero"></path></svg><ul class="sc-1nws10e-6 fhoAiN">Order Journal Institutional</div><div class="sc-1nws10e-4 cviXWN"><p class="sc-1nws10e-5 hugDdc">Editors</p><svg aria-hidden="true" focusable="false" height="1em" viewBox="0 0 9 15" width="1em"><path d="M.156 13.469L6.094 7.53156 1.594 1.25517.031 7.031-7.031 7.032z" fill="currentColor" fill-rule="nonzero"></path></svg><ul class="sc-1nws10e-6 fhoAiN">Publishing Ethics Resource KitGuest EditorsSupport Center</div><div class="sc-1nws10e-4 cviXWN"><p class="sc-1nws10e-5 hugDdc">Reviewers</p><svg aria-hidden="true" focusable="false" height="1em" viewBox="0 0 9 15" width="1em"><path d="M.156 13.469L6.094 7.53156 1.594 1.25517.031 7.031-7.031 7.032z" fill="currentColor" fill-rule="nonzero"></path></svg><ul class="sc-1nws10e-6 fhoAiN">Reviewer GuidelinesLog in as ReviewerReviewer RecognitionSupport Center</div></div></div><div class="sc-1g5fvti-1 fukXbF" role="contentinfo"><div class="sc-1c6xsv-0 emEISL"><div class="sc-1dxr8k6-0 sc-1c6xsv-1 lhCPPw KEACDc"></noscript></noscript><div class="sc-1c6xsv-4 hHSElc"><p class="sc-1q3q1nv-0 sc-1c6xsv-5 eTETae

cfTWSE" > Copyright © 2022 Elsevier, except certain content provided by third parties </p>
<p class="sc-1q3g1nv-0 sc-1c6xsv-5 eTETae cftwSE"> Cookies are used by this site. <button
class="sc-1qzfk1-0 hQPrvi ot-sdk-show-settings"> Cookie Settings </button> </p> <p class="s
c-1q3g1nv-0 sc-1c6xsv-5 eTETae cftwSE"> <a class="sc-kvjqii-0 fYuYRT footer-terms-and-con
ditions" data-aa-name="Terms and Conditions" data-aa-region="footer" href="//www.elsevie
r.com/legal/elsevier-website-terms-and-conditions" rel="noopener noreferrer" target="_se
lf"> Terms and Conditions <a class="sc-kvjqii-0 fYuYRT footer-privacy-pol
icy" data-aa-name="Privacy Policy" data-aa-region="footer" href="//www.elsevier.com/lega
l/privacy-policy" rel="noopener noreferrer" target="_self"> Privacy Policy </
a> <a class="sc-kvjqii-0 fYuYRT footer-cookie-notice" data-aa-name="Cookie Notice" data-a
a-region="footer" href="//www.elsevier.com/legal/cookienotice" rel="noopener noreferrer"
target="_self"> Cookie Notice <a class="sc-kvjqii-0 fYuYRT footer-sitema
p" data-aa-name="Sitemap" data-aa-region="footer" href="//www.elsevier.com/sitemap" rel
="noopener noreferrer" target="_self"> Sitemap </p> </div> <a class="sc-1c6
xsv-3 dzhXup" href="https://www.relx.com/" rel="noopener" title="Relx Group Homepage"> <s
pan style="box-sizing: border-box; display: inline-block; overflow: hidden; width: initi
al; height: initial; background: none; opacity: 1; border: 0px; margin: 0px; padding: 0p
x; position: relative; max-width: 100%;"> <span style="box-sizing: border-box; display: b
lock; width: initial; height: initial; background: none; opacity: 1; border: 0px; margi
n: 0px; padding: 0px; max-width: 100%;"> <noscript> </noscript> </div> </div> </div> </div> </div> <script id="__NEXT_DATA__"
type="application/json"> {"props": {"pageProps": {"basicInfo": {"aimsAndScope": "\u003cp\u00
3eThe journal of \u003ci\u003eArtificial Intelligence (AIJ) \u003c/i\u003e welcomes pape
rs on broad aspects of AI that constitute advances in the overall field including, but n
ot limited to, cognition and AI, automated reasoning and inference, case-based reasonin
g, commonsense reasoning, computer vision, constraint processing, ethical AI, heuristic
search, human interfaces, intelligent robotics, knowledge representation, machine learn
ing, multi-agent systems, natural language processing, planning and action, and reasonin
g under uncertainty. The journal reports results achieved in addition to proposals for n
ew ways of looking at AI problems, both of which must include demonstrations of value an
d effectiveness. \u003cp\u003e\u003cp\u003e Papers describing applications of AI are a
lso welcome, but the focus should be on how new and novel AI methods advance performance
in application areas, rather than a presentation of yet another application of conventio
nal AI methods. Papers on applications should describe a principled solution, emphasize
its novelty, and present an indepth evaluation of the AI techniques being exploited.\u00
3c/p\u003e\u003cp\u003e Apart from regular papers, the journal also accepts Research No
tes, Research Field Reviews, Position Papers, and Book Reviews (see details below). The
journal will also consider summary papers that describe challenges and competitions from
various areas of AI. Such papers should motivate and describe the competition design as
well as report and interpret competition results, with an emphasis on insights that are
of value beyond the competition (series) itself. \u003cp\u003e\u003cp\u003e From time t
o time, there are special issues devoted to a particular topic. Such special issues must
always have open calls-for-papers. Guidance on the submission of proposals for special i
ssues, as well as other material for authors and reviewers can be found at \u003ca href=
http://aij.ijcai.org/special-issues rel=external target=_blank\u003ehttp://aij.ijcai.or
g/special-issues\u003c/a\u003e. \u003cp\u003e\u003cp\u003e \u003cb\u003eTypes of Paper
s \u003c/b\u003e\u003cp\u003e\u003cp\u003e \u003cb\u003eRegular Papers \u003c/b\u003e\u003cp\u003e\u003cp\u003e AIJ welcomes basic and applied papers describing mature, compl
ete, and novel research that articulate methods for, and provide insight into artificial
intelligence and the production of artificial intelligent systems. The question of wheth
er a paper is mature, complete and novel is ultimately determined by reviewers and edito
rs on a case-by-case basis. Generally, a paper should include a convincing motivational d

discussion, articulate the relevance of the research to Artificial Intelligence, clarify what is new and different, anticipate the scientific impact of the work, include all relevant proofs and/or experimental data, and provide a thorough discussion of connections with the existing literature. A prerequisite for the novelty of a paper is that the results it describes have not been previously published by other authors and have not been previously published by the same authors in any archival journal. In particular, a previous conference publication by the same authors does not disqualify a submission on the grounds of novelty. However, it is rarely the case that conference papers satisfy the completeness criterion without further elaboration. Indeed, even prize-winning papers from major conferences often undergo major revision following referee comments, before being accepted to AIJ. \u003c/p\u003e\u003cp\u003e \u003eci\u003eAIJ\u003c/i\u003e caters to a broad readership. Papers that are heavily mathematical in content are welcome but should include a less technical high-level motivation and introduction that is accessible to a wide audience and explanatory commentary throughout the paper. Papers that are only purely mathematical in nature, without demonstrated applicability to artificial intelligence problems may be returned. A discussion of the work's implications on the production of artificial intelligent systems is normally expected. \u003c/p\u003e\u003cp\u003e There is no restriction on the length of submitted manuscripts. However, authors should note that publication of lengthy papers, typically greater than forty pages, is often significantly delayed, as the length of the paper acts as a disincentive to the reviewer to undertake the review process. Unedited theses are acceptable only in exceptional circumstances.

Editing a thesis into a journal article is the author's responsibility, not the reviewers'. \u003c/p\u003e\u003cp\u003e \u003cb\u003eResearch Notes \u003c/b\u003e\u003c/p\u003e\u003cp\u003e The Research Notes section of the Journal of Artificial Intelligence will provide a forum for short communications that cannot fit within the other paper categories. The maximum length should not exceed 4500 words (typically a paper with 5 to 14 pages). Some examples of suitable Research Notes include, but are not limited to the following: crisp and highly focused technical research aimed at other specialists; a detailed exposition of a relevant theorem or an experimental result; an erratum note that addresses and revises earlier results appearing in the journal; an extension or addendum to an earlier published paper that presents additional experimental or theoretical results. \u003c/p\u003e\u003cp\u003e \u003cb\u003eReviews\u003c/b\u003e \u003c/p\u003e\u003cp\u003e The AIJ invests significant effort in assessing and publishing scholarly papers that provide broad and principled reviews of important existing and emerging research areas, reviews of topical and timely books related to AI, and substantial, but perhaps controversial position papers (so-called \"Turing Tape\" papers) that articulate scientific or social issues of interest in the AI research community. \u003c/p\u003e\u003cp\u003e \u003cb\u003eResearch Field Reviews:\u003c/b\u003e AIJ expects broad coverage of an established or emerging research area, and the articulation of a comprehensive framework that demonstrates the role of existing results, and synthesizes a position on the potential value and possible new research directions. A list of papers in an area, coupled with a summary of their contributions is not sufficient. Overall, a field review article must provide a scholarly overview that facilitates deeper understanding of a research area. The selection of work covered in a field article should be based on clearly stated, rational criteria that are acceptable to the respective research community within AI; it must be free from personal or idiosyncratic bias. \u003c/p\u003e\u003cp\u003e Research Field Reviews are by invitation only, where authors can then submit a 2-page proposal of a Research Field Review for confirmation by the special editors. The 2-page proposal should include a convincing motivational discussion, articulate the relevance of the research to artificial intelligence, clarify what is new and different from other surveys available in the literature, anticipate the scientific impact of the proposed work, and provide evidence that authors are authoritative researchers in the area of the proposed Research Field Review. Upon confirmation of the 2-page proposal, the full Invited Research Field Reviews can then be submitted and then undergoes the same review process as regular papers. \u003c/p\u003e\u003cp\u003e \u003cb\u003eBook Reviews: \u003c/b\u003eWe seek reviewers for books received, and suggestions for books to be reviewed. In the case of the former, the review editors solicit reviews from researchers assessed to be expert in the field of the book. In the case of the latter, the review editors can either assess the relevance of a particular suggestion, or even arrange for the refereeing of a submitted draft review. \u003c/p\u003e\u003cp\u003e \u003cb\u003ePosition Papers\u003c/b\u003e: The last review category, named in honour of Alan Turing as a \"Turing Tapes\" section of AIJ, seeks clearly written and scholarly papers on potentially controversial topics, whose authors present professional and mature positions on all variety of methodological, scientific, and social aspects of AI. Turing Tape papers typically provide more personal perspectives

titles on important issues, with the intent to catalyze scholarly discussion.

Turing Tape papers are by invitation only, where authors can then submit a 2-page proposal of a Turing Tape paper for confirmation by the special editors. The 2-page proposal should include a convincing motivational discussion, articulate the relevance to artificial intelligence, clarify the originality of the position, and provide evidence that authors are authoritative researchers in the area on which they are expressing the position. Upon confirmation of the 2-page proposal, the full Turing Tape paper can then be submitted and then undergoes the same review process as regular papers.

Competition Papers

Competitions between AI systems are now well established (e.g. in speech and language, planning, auctions, games, to name a few). The scientific contributions associated with the systems entered in these competitions are routinely submitted as research papers to conferences and journals. However, it has been more difficult to find suitable venues for papers summarizing the objectives, results, and major innovations of a competition. For this purpose, AIJ has established the category of competition summary papers.

Competition Paper submissions should describe the competition, its criteria, why it is interesting to the AI research community, the results (including how they compare to previous rounds, if appropriate), in addition to giving a summary of the main technical contributions to the field manifested in systems participating in the competition. Papers may be supplemented by online appendices giving details of participants, problem statements, test scores, and even competition-related software.

Although Competition Papers serve as an archival record of a competition, it is critical that they make clear why the competition's problems are relevant to continued progress in the area, what progress has been made since the previous competition, if applicable, and what were the most significant technical advances reflected in the competition results. The exposition should be accessible to a broad AI audience.

The journal of Artificial Intelligence (AIJ) welcomes papers on broad aspects of AI that constitute advances in the overall field including, but not limited to:

An International Journal

Artificial Intelligence

Submit your paper

View Articles

Volume/Issue Alert

Personalized Recommendations

Authors

Submit your Paper

Check Submitted Paper

Researcher Academy

Rights and Permissions

Elsevier Author Services

Support Center

Track Accepted Paper

Librarians

Order Journal Institutional

Editors

Publishing Ethics Resource Kit

Guest Editors

Support Center

Reviewers

Reviewer Guidelines

Log in as Reviewer

Reviewer Recognition

Support Center

Advertisers Media Information

Societies

ISSN: 0004-3702

Metrics

Year	CiteScore
2017	6.7
2018	7.7
2019	7.7
2020	8.3
2021	8.6

2004-3702/impact_factor", "type": "trend", "is_yearly": true, "data": [{"date": "2016-01-01T00:00:00.000Z", "value": 4.797}, {"date": "2017-01-01T00:00:00.000Z", "value": 3.034}, {"date": "2018-01-01T00:00:00.000Z", "value": 4.483}, {"date": "2019-01-01T00:00:00.000Z", "value": 6.628}, {"date": "2020-01-01T00:00:00.000Z", "value": 9.088}], {"name": "Top Readership", "url": "https://journalinsights.elsevier.com/journals/0004-3702/downloads", "type": "countries", "is_yearly": true, "data": [{"value": 322572, "country": "China", "iso": "CN"}, {"value": 240733, "country": "United States", "iso": "US"}, {"value": 112798, "country": "United Kingdom", "iso": "GB"}, {"value": 65020, "country": "Germany", "iso": "DE"}, {"value": 55257, "country": "India", "iso": "IN"}]}, {"name": "Publication Time", "url": "https://journalinsights.elsevier.com/journals/0004-3702/oapt", "type": "value", "is_yearly": true, "data": 1.03}], "publishingOptions": {"subscription_type": "HYBRID_OPEN_ACCESS", "open_access_url": "https://www.elsevier.com/journals/artificial-intelligence/0004-3702/open-access-options", "guide_for_authors_url": "https://www.elsevier.com/journals/artificial-intelligence/0004-3702/guide-for-authors", "check_submitted_paper": "https://www.editorialmanager.com/artint/default.aspx", "order_journal_institutional_url": "https://www.elsevier.com/journals/artificial-intelligence/0004-3702/subscribe?subscriptiontype=institutional", "show_guide_for_authors": true, "show_check_submitted_paper": true, "show_order_journal": true}, "socialMedia": {"facebook_url": "https://www.facebook.com/ElsevierComputerScience", "twitter_url": "https://twitter.com/comp_science", "linked_in_url": "https://www.linkedin.com/groups/3384863/"}, "mostDownloadedArticles": [{"title": "Reward is enough", "article_url": "https://www.sciencedirect.com/science/article/pii/S0004370221000862", "open_access": true, "authors": ["Silver, David", "Singh, Satinder", "Precup, Doina", "Sutton, Richard S."], "publication_date": "2021-10-31"}, {"title": "Making sense of raw input", "article_url": "https://www.sciencedirect.com/science/article/pii/S0004370221000722", "open_access": true, "authors": ["Evans, Richard", "Bošnjak, Matko", "Buesing, Lars", "Ellis, Kevin", "Pfau, David", "Kohli, Pushmeet", "Sergot, Marek"], "publication_date": "2021-10-31"}, {"title": "Law and logic: A review from an argumentation perspective", "article_url": "https://www.sciencedirect.com/science/article/pii/S0004370215000910", "open_access": true, "authors": ["Prakken, Henry", "Sartor, Giovanni"], "publication_date": "2015-10-31"}, {"title": "Creativity and artificial intelligence", "article_url": "https://www.sciencedirect.com/science/article/pii/S0004370298000551", "open_access": true, "authors": ["Boden, Margaret A."], "publication_date": "1998-08-31"}, {"title": "Artificial cognition for social human-robot interaction: An implementation", "article_url": "https://www.sciencedirect.com/science/article/pii/S0004370216300790", "open_access": true, "authors": ["Lemaignan, Séverin", "Warnier, Mathieu", "Sisbot, E. Akin", "Clodic, Aurélie", "Alami, Rachid"], "publication_date": "2017-06-30"}, {"title": "Explanation in artificial intelligence: Insights from the social sciences", "article_url": "https://www.sciencedirect.com/science/article/pii/S0004370218305988", "open_access": false, "authors": ["Miller, Tim"], "publication_date": "2019-02-28"}, {"title": "Making sense of sensory input", "article_url": "https://www.sciencedirect.com/science/article/pii/S0004370220301855", "open_access": true, "authors": ["Evans, Richard", "Hernández-Orallo, José", "Welbl, Johannes", "Kohli, Pushmeet", "Sergot, Marek"], "publication_date": "2021-04-30"}, {"title": "Conflict-based search for optimal multi-agent pathfinding", "article_url": "https://www.sciencedirect.com/science/article/pii/S0004370214001386", "open_access": true, "authors": ["Sharon, Guni", "Stern, Roni", "Felner, Ariel", "Sturtevant, Nathan R."], "publication_date": "2015-02-28"}, {"title": "Between MDPs and semi-MDPs: A framework for temporal abstraction in reinforcement learning", "article_url": "https://www.sciencedirect.com/science/article/pii/S0004370299000521", "open_access": true, "authors": ["Sutton, Richard S.", "Precup, Doina", "Singh, Satinder"], "publication_date": "1999-08-31"}, {"title": "The Hanabi challenge: A new frontier for AI research", "article_url": "https://www.sciencedirect.com/science/article/pii/S0004370219300116", "open_access": true, "authors": ["Bard, Nolan", "Foerster, Jakob N.", "Chandar, Sarath", "Burch, Neil", "Lanctot, Marc", "Song, H. Francis", "Parisotto, Emilio", "Dumoulin, Vincent", "Moitra, Subhodeep", "Hughes, Edward", "Dunning, Iain", "Mourad, Shibli", "Larochelle, Hugo", "Bellemare, Marc G.", "Bowling, Michael"], "publication_date": "2020-03-31"}, {"title": "Evaluating XAI: A comparison of rule-based and example-based explanations", "article_url": "https://www.sciencedirect.com/science/article/pii/S0004370220301533", "open_access": true, "authors": ["van der Waa, Jasper", "Nieuwburg, Elisabeth", "Cremers, Anita", "Neerincx, Mark"], "publication_date": "2021-02-28"}, {"title": "Argumentation in artificial intelligence", "article_url": "https://www.sciencedirect.com/science/article/pii/S0004370207000793", "open_access": true, "authors": ["Benich-Capon, T.J.M.", "Dunne, Paul E."], "publication_date": "2007-10-31"}, {"title": "Algorithms for computing strategies in two-player simultaneous move games", "article_url": "https://www.sciencedirect.com/science/article/pii/S0004370216300285", "open_access": true, "authors": ["Božanský, Branislav", "Lisý, Viliam", "Lanctot, Marc", "Čermák, Jiří", "Winands, Mark H.M."], "publication_date": "2016-08-31"}, {"title": "Multiple object tracking: A literature

```

re review", "article_url": "https://www.sciencedirect.com/science/article/pii/S0004370220301958", "open_access": false, "authors": ["Luo, Wenhan", "Xing, Junliang", "Milan, Anton", "Zhang, Xiaoqin", "Liu, Wei", "Kim, Tae-Kyun"], "publication_date": "2021-04-30"}, {"title": "Selection of relevant features and examples in machine learning", "article_url": "https://www.sciencedirect.com/science/article/pii/S0004370297000635", "open_access": true, "authors": ["Blum, Avrim L.", "Langley, Pat"], "publication_date": "1997-12-31"}, {"title": "A survey of inverse reinforcement learning: Challenges, methods and progress", "article_url": "https://www.sciencedirect.com/science/article/pii/S0004370221000515", "open_access": false, "authors": ["Arora, Saurabh", "Doshi, Prashant"], "publication_date": "2021-08-31"}, {"title": "Explaining individual predictions when features are dependent: More accurate approximations to Shapley values", "article_url": "https://www.sciencedirect.com/science/article/pii/S0004370221000539", "open_access": true, "authors": ["Aas, Kjersti", "Jullum, Martin", "Løland, Anders"], "publication_date": "2021-09-30"}, {"title": "A review of possible effects of cognitive biases on interpretation of rule-based machine learning models", "article_url": "https://www.sciencedirect.com/science/article/pii/S0004370221000096", "open_access": true, "authors": ["Kliegr, Tomáš", "Bahník, Štěpán", "Förnkrantz, Johannes"], "publication_date": "2021-06-30"}, {"title": "Integrating social power into the decision-making of cognitive agents", "article_url": "https://www.sciencedirect.com/science/article/pii/S0004370216300868", "open_access": true, "authors": ["Pereira, Gonçalo", "Prada, Rui", "Santos, Pedro A."], "publication_date": "2016-12-31"}, {"title": "'That's (not) the output I expected!' On the role of end user expectations in creating explanations of AI systems", "article_url": "https://www.sciencedirect.com/science/article/pii/S0004370221000588", "open_access": true, "authors": ["Riveiro, Maria", "Thill, Serge"], "publication_date": "2021-09-30"}, {"title": "Explaining black-box classifiers using post-hoc explanations-by-example: The effect of explanations and error-rates in XAI user studies", "article_url": "https://www.sciencedirect.com/science/article/pii/S0004370221000102", "open_access": true, "authors": ["Kenny, Eoin M.", "Ford, Courtney", "Quinn, Molly", "Keane, Mark T."], "publication_date": "2021-05-31"}, {"title": "Algorithm runtime prediction: Methods \u0026; evaluation", "article_url": "https://www.sciencedirect.com/science/article/pii/S0004370213001082", "open_access": true, "authors": ["Hutter, Frank", "Xu, Lin", "Hoos, Holger H.", "Leyton-Brown, Kevin"], "publication_date": "2014-01-31"}, {"title": "Wrappers for feature subset selection", "article_url": "https://www.sciencedirect.com/science/article/pii/S000437029700043X", "open_access": true, "authors": ["Kohavi, Ron", "John, George H."], "publication_date": "1997-12-31"}, {"title": "Commonsense visual sensemaking for autonomous driving - On generalised neurosymbolic online abduction integrating vision and semantics", "article_url": "https://www.sciencedirect.com/science/article/pii/S0004370221000734", "open_access": true, "authors": ["Suchan, Jakob", "Bhatt, Mehul", "Varadarajan, Srikrishna"], "publication_date": "2021-10-31"}, {"title": "Quantum computation, quantum theory and AI", "article_url": "https://www.sciencedirect.com/science/article/pii/S0004370209001398", "open_access": true, "authors": ["Ying, Mingsheng"], "publication_date": "2010-02-28"}], "__N_SSG": true}, {"page": "[slug]/most-downloaded-articles", "query": {"slug": "artificial-intelligence"}, "buildId": "OohGP-kM0hfp4_xLmWgAq", "isFallback": false, "gsp": true, "scriptLoader": []}</script><script crossorigin="anonymous" data-cf-beacon="{\"rayId\": \"7151c301cb178513\", \"token\": \"1f19f5bb68b64c76855d2d1457370d53\", \"version\": \"2021.12.0\", \"si\": 100}' defer=\"\" integrity=\"sha512-Gi7xpJR8tSkrpF7aordPZQLw2DLtzULZcumS8dMQjwDHEnw9I7ZLyioj/6tZStRBGtGgN6ceN6cMH8z7etPGLw==\" src=\"https://static.cloudflareinsights.com/beacon.min.js/v652eace1692a40cfa3763df669d7439c1639079717194\"></script>
</body></html>

```

```

In [43]: paper_title = []

for i in soup.find_all('h2', class_="sc-1qrq3sd-1 MKjKb sc-1nmom32-0 sc-1nmom32-1 hqhUYH"):
    paper_title.append(i.text)

paper_title

```



```

Out[43]: ['Reward is enough',
'Making sense of raw input',
'Law and logic: A review from an argumentation perspective',
'Creativity and artificial intelligence',
'Artificial cognition for social human-robot interaction: An implementation',
'Explanation in artificial intelligence: Insights from the social sciences',
'Making sense of sensory input',
'Conflict-based search for optimal multi-agent pathfinding',
'Between MDPs and semi-MDPs: A framework for temporal abstraction in reinforcement learning',
'The Hanabi challenge: A new frontier for AI research',
'Evaluating XAI: A comparison of rule-based and example-based explanations',
'Argumentation in artificial intelligence',
'Algorithms for computing strategies in two-player simultaneous move games',
'Multiple object tracking: A literature review',
'Selection of relevant features and examples in machine learning',
'A survey of inverse reinforcement learning: Challenges, methods and progress',
'Explaining individual predictions when features are dependent: More accurate approximations to Shapley values',
'A review of possible effects of cognitive biases on interpretation of rule-based machine learning models',
'Integrating social power into the decision-making of cognitive agents',
'"That's (not) the output I expected!" On the role of end user expectations in creating explanations of AI systems',
'Explaining black-box classifiers using post-hoc explanations-by-example: The effect of explanations and error-rates in XAI user studies',
'Algorithm runtime prediction: Methods & evaluation',
'Wrappers for feature subset selection',
'Commonsense visual sensemaking for autonomous driving - On generalised neurosymbolic online abduction integrating vision and semantics',
'Quantum computation, quantum theory and AI']

```

```

In [44]: authors = []

for i in soup.find_all('span', class_="sc-1w3fpd7-0 pgLAT"):
    authors.append(i.text)

authors

```

```

Out[44]: ['Silver, David, Singh, Satinder, Precup, Doina, Sutton, Richard S. ',
'Evans, Richard, Bošnjak, Matko and 5 more',
'Prakken, Henry, Sartor, Giovanni ',
'Boden, Margaret A. ',
'Lemaignan, Séverin, Warnier, Mathieu and 3 more',
'Miller, Tim ',
'Evans, Richard, Hernández-Orallo, José and 3 more',
'Sharon, Guni, Stern, Roni, Felner, Ariel, Sturtevant, Nathan R. ',
'Sutton, Richard S., Precup, Doina, Singh, Satinder ',
'Bard, Nolan, Foerster, Jakob N. and 13 more',
'van der Waa, Jasper, Nieuwburg, Elisabeth, Cremers, Anita, Neerincx, Mark ',
'Bench-Capon, T.J.M., Dunne, Paul E. ',
'Bošanský, Branislav, Lisý, Viliam and 3 more',
'Luo, Wenhan, Xing, Junliang and 4 more',
'Blum, Avrim L., Langley, Pat ',
'Arora, Saurabh, Doshi, Prashant ',
'Aas, Kjersti, Jullum, Martin, Løland, Anders ',
'Kliegr, Tomáš, Bahník, Štěpán, Fürnkranz, Johannes ',
'Pereira, Gonçalo, Prada, Rui, Santos, Pedro A. ',
'Riveiro, Maria, Thill, Serge ',
'Kenny, Eoin M., Ford, Courtney, Quinn, Molly, Keane, Mark T. ',
'Hutter, Frank, Xu, Lin, Hoos, Holger H., Leyton-Brown, Kevin ',
'Kohavi, Ron, John, George H. ',
'Suchan, Jakob, Bhatt, Mehul, Varadarajan, Srikrishna ',
'Ying, Mingsheng ']

```



```
In [64]: published_date = []

for i in soup.find_all('span', class_="sc-1thf9ly-2 bKddwo"):
    published_date.append(i.text)

published_date
```

```
Out[64]: ['October 2021',
          'October 2021',
          'October 2015',
          'August 1998',
          'June 2017',
          'February 2019',
          'April 2021',
          'February 2015',
          'August 1999',
          'March 2020',
          'February 2021',
          'October 2007',
          'August 2016',
          'April 2021',
          'December 1997',
          'August 2021',
          'September 2021',
          'June 2021',
          'December 2016',
          'September 2021',
          'May 2021',
          'January 2014',
          'December 1997',
          'October 2021',
          'February 2010']
```

```
In [75]: paper_url = []

for i in soup.find_all('a', class_="sc-5smygv-0 nrDZj"):
    paper_url.append(i)

paper_url
```

Out[75]:

[<h2 class="sc-1qrq3sd-1 MKjKb sc-1nmom32-0 sc-1nmom32-1 hqhUYH ebTA-d R">Reward is enough</h2>, <h2 class="sc-1qrq3sd-1 MKjKb sc-1nmom32-0 sc-1nmom32-1 hqhUYH ebTA-d R">Making sense of raw input</h2>, <h2 class="sc-1qrq3sd-1 MKjKb sc-1nmom32-0 sc-1nmom32-1 hqhUYH ebTA-d R">Law and logic: A review from an argumentation perspective</h2>, <h2 class="sc-1qrq3sd-1 MKjKb sc-1nmom32-0 sc-1nmom32-1 hqhUYH ebTA-d R">Creativity and artificial intelligence</h2>, <h2 class="sc-1qrq3sd-1 MKjKb sc-1nmom32-0 sc-1nmom32-1 hqhUYH ebTA-d R">Artificial cognition for social human-robot interaction: An implementation</h2>, <h2 class="sc-1qrq3sd-1 MKjKb sc-1nmom32-0 sc-1nmom32-1 hqhUYH ebTA-d R">Explanation in artificial intelligence: Insights from the social sciences</h2>, <h2 class="sc-1qrq3sd-1 MKjKb sc-1nmom32-0 sc-1nmom32-1 hqhUYH ebTA-d R">Making sense of sensory input</h2>, <h2 class="sc-1qrq3sd-1 MKjKb sc-1nmom32-0 sc-1nmom32-1 hqhUYH ebTA-d R">Conflict-based search for optimal multi-agent pathfinding</h2>, <h2 class="sc-1qrq3sd-1 MKjKb sc-1nmom32-0 sc-1nmom32-1 hqhUYH ebTA-d R">Between MDPs and semi-MDPs: A framework for temporal abstraction in reinforcement learning</h2>, <h2 class="sc-1qrq3sd-1 MKjKb sc-1nmom32-0 sc-1nmom32-1 hqhUYH ebTA-d R">The Hanabi challenge: A new frontier for AI research</h2>, <h2 class="sc-1qrq3sd-1 MKjKb sc-1nmom32-0 sc-1nmom32-1 hqhUYH ebTA-d R">Evaluating XAI: A comparison of rule-based and example-based explanations</h2>, <h2 class="sc-1qrq3sd-1 MKjKb sc-1nmom32-0 sc-1nmom32-1 hqhUYH ebTA-d R">Argumentation in artificial intelligence</h2>, <h2 class="sc-1qrq3sd-1 MKjKb sc-1nmom32-0 sc-1nmom32-1 hqhUYH ebTA-d R">Algorithms for computing strategies in two-player simultaneous move games</h2>, <h2 class="sc-1qrq3sd-1 MKjKb sc-1nmom32-0 sc-1nmom32-1 hqhUYH ebTA-d R">Multiple object tracking: A literature review</h2>, <h2 class="sc-1qrq3sd-1 MKjKb sc-1nmom32-0 sc-1nmom32-1 hqhUYH ebTA-d R">Selection of relevant features and examples in machine learning</h2>, <h2 class="sc-1qrq3sd-1 MKjKb sc-1nmom32-0 sc-1nmom32-1 hqhUYH ebTA-d R">A survey of inverse reinforcement learning: Challenges, methods and progress</h2>,
<h2 class="sc-1qrq3sd-1 MKjKb sc-1nmom32-0 sc-1nmom32-1 hqhUYH ebTA-d R">Explaining individual predictions when features are dependent: More accurate approximations to Shapley values</h2>, <h2 class="sc-1qrq3sd-1 MKjKb sc-1nmom32-0 sc-1nmom32-1 hqhUYH ebTA-d R">A review of possible effects of cognitive biases on interpretation of rule-based machine learning models</h2>, <h2 class="sc-1qrq3sd-1 MKjKb sc-1nmom32-0 sc-1nmom32-1 hqhUYH ebTA-d R">Integrating social power into the decision-making of cognitive agents</h2>, <h2 class="sc-1qrq3sd-1 MKjKb sc-1nmom32-0 sc-1nmom32-1 hqhUYH ebTA-d R">"That's (not) the output I expected!" On the role of end user expectations in creatin

g explanations of AI systems</h2>,

```
In [76]: df = pd.DataFrame({'Paper Title': paper_title, 'Authors': authors, 'Published Date': pub
df
```

Out[76]:

	Paper Title	Authors	Published Date
0	Reward is enough	Silver, David, Singh, Satinder, Precup, Doina,...	October 2021
1	Making sense of raw input	Evans, Richard, Bošnjak, Matko and 5 more	October 2021
2	Law and logic: A review from an argumentation ...	Prakken, Henry, Sartor, Giovanni	October 2015
3	Creativity and artificial intelligence	Boden, Margaret A.	August 1998
4	Artificial cognition for social human–robot in...	Lemaignan, Séverin, Warnier, Mathieu and 3 more	June 2017
5	Explanation in artificial intelligence: Insign...	Miller, Tim	February 2019
6	Making sense of sensory input	Evans, Richard, Hernández-Orallo, José and 3 more	April 2021
7	Conflict-based search for optimal multi-agent ...	Sharon, Guni, Stern, Roni, Felner, Ariel, Stur...	February 2015
8	Between MDPs and semi-MDPs: A framework for te...	Sutton, Richard S., Precup, Doina, Singh, Sati...	August 1999
9	The Hanabi challenge: A new frontier for AI re...	Bard, Nolan, Foerster, Jakob N. and 13 more	March 2020
10	Evaluating XAI: A comparison of rule-based and...	van der Waa, Jasper, Nieuwburg, Elisabeth, Cre...	February 2021
11	Argumentation in artificial intelligence	Bench-Capon, T.J.M., Dunne, Paul E.	October 2007
12	Algorithms for computing strategies in two-pla...	Bošanský, Branislav, Lisý, Viliam and 3 more	August 2016
13	Multiple object tracking: A literature review	Luo, Wenhan, Xing, Junliang and 4 more	April 2021
14	Selection of relevant features and examples in...	Blum, Avrim L., Langley, Pat	December 1997
15	A survey of inverse reinforcement learning: Ch...	Arora, Saurabh, Doshi, Prashant	August 2021
16	Explaining individual predictions when feature...	Aas, Kjersti, Jullum, Martin, Løland, Anders	September 2021
17	A review of possible effects of cognitive bias...	Kliegr, Tomáš, Bahník, Štěpán, Fürnkranz, Joha...	June 2021
18	Integrating social power into the decision-mak...	Pereira, Gonçalo, Prada, Rui, Santos, Pedro A.	December 2016
19	“That's (not) the output I expected!” On the r...	Riveiro, Maria, Thill, Serge	September 2021
20	Explaining black-box classifiers using post-ho...	Kenny, Eoin M., Ford, Courtney, Quinn, Molly, ...	May 2021
21	Algorithm runtime prediction: Methods & evalua...	Hutter, Frank, Xu, Lin, Hoos, Holger H., Leyto...	January 2014
22	Wrappers for feature subset selection	Kohavi, Ron, John, George H.	December 1997
23	Commonsense visual sensemaking for autonomous ...	Suchan, Jakob, Bhatt, Mehul, Varadarajan, Srik...	October 2021
24	Quantum computation, quantum theory and AI	Ying, Mingsheng	February 2010

In []: