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Editorial   
Reproducibility,reusability,andcommunityeffortsinartificialintelligence research

*ArtificialIntelligenceintheLifeSciences*(*AILSCI*)supportsopensci-ence,datasharing,andgoodpracticestoensurereproducibilityofscien-tificinvestigations.Thus,forpublicationoforiginalresearchin*AILSCI*, primarydatathatarenotinthepublicdomainmustbemadeavailable aswellascustomcodethatisessentialforthemainresultsofastudy. However,proprietarydataconstraintsintheindustryarealsoappre-ciatedandshouldnotprecludepublicationofinterestingsciencefrom commercialenvironments.Therefore,*AILSCI*offersavarietyofarticle categories.

Currently,weco[nsiderthefollowi](https://www.elsevier.com/journals/artificial-intelligence-in-the-life-sciences/2667-3185/guide-for-authors)ngtypesofmanuscripts(forfur-therdetails,seethe[GuideforAuthors](https://www.elsevier.com/journals/artificial-intelligence-in-the-life-sciences/2667-3185/guide-for-authors)):

1*ResearchArticles*communicateoriginalresearchyieldingnovelfind-ings.Reportsofnovelcomputationalmethodswithlifescienceim-pactaswellasstudiescombiningAIandexperimentalworkare highlyencouraged.

2*Communications*reportpreliminaryresearchthatisnovelandscien- tificallysoundandmaygiverisetoalarger-scaleinvestigation. 3*Reviews*comprehensivelycoveranareaofAIwithhighrelevance forthelifesciencesorAIapplicationsinaparticularlifescience disciplineorinterdisciplinaryresearch.

4*Perspectives*havethecharacterofminireviewsofagiventopicor areaofresearchwithanexplicitpersonaloutlook.

5*ConceptualAnalysis*articlescoverAIconceptsforthelifesciencesor re-evaluateexistingtheoriesfromalifescienceviewpoint.

6*Methods&Protocols*conciselyintroduceamethod,workflow,soft-ware,orstudyprotocolthatisreadilyapplicableandfullyrepro-ducible,includingopensourcesoftware.Presentingexemplaryap-plicationsisencouraged.

7*ControversialViews*discussresearchresultsorscientificissuesthat maybecontroversiallyratedsuchascurrentmethodologicallim-itations,frequentlyoverlookedproblems,orprovocativeconcepts chartingnewterritory,evenifpreliminary.Suchcontributionsmight alsobesolicitedbytheeditorstopresentopposingviewpointsofdif-ferentinvestigatorsside-by-side.

8*Opinions*arecommentariesorreflectionsonaparticulartopic,find-ing,ortrendinthefield,withemphasisonpersonalviewsand/or recommendations.

Articlessuchas*Perspectives,ConceptualAnalysis,Methods&Protocols, ControversialViews*,or*Opinions*provideavarietyofformatsforcommu-nicatingnewscientificapproaches,casestudies,andpersonalviewsor

experiences,withouttheneedfordatadisclosure.Hence,thesetypes ofmanuscriptscanbereadilyconsideredforpresentingnewscientific developmentsintheindustryindifferentways.

Naturally,theremightoccasionallybeborderlinesituationsrequir-ingdecisionsonacase-by-casebasis.Forexample,ina*Methods*paper,a newalgorithmdevelopedintheindustrymightbepresentedaspseudo-code,withoutprovidingthesoftware,ifthedescriptionissufficiently detailedtoenablere-implementationbyothers.However,ifasoftware vendorwouldaimtobenchmarkproprietarysoftwareagainstpublicly availableprogramsandclaimsuperiorperformance,thestudywould notbepublishablein*AILSCI*,regardlessofthemanuscripttype,unless thesoftwareismadeavailabletothepublic.

Inthefollowing,wespecifyfurtheropportunitiesfordifferenttypes ofcontributionsthatfallwithinthescopeof*AILSCI*.

**Reusabilityandadaptabilityofalgorithmsandcode**

Theuseorextensionofpublishedmethodsandsourcecodefordif-ferentapplicationsisimportantforthefurtherdevelopmentofthefield andalsosupportsourquestforreproducibility.

Inspiredbytherecentintroductionof*ReusabilityReports*in*Nature MachineIntelligence*[1,2],publicationofsuchstudiesas*Methods&Pro-tocols*contributionsin*AILSCI*isstronglyencouraged.Itisessentialthat calculationsandworkflowsreportedinthesepapersarefullyrepro-ducible.Hence,theyshouldbeprovidedasopensourcescripts,Jupyter notebooks,orinanothersuitableformat.

Furthermore,wenotethatcomputerscienceandthelifesciences havedifferentpublicationcultures.Incomputerscience,newalgorithms andmethodsarepreferentiallypublishedinconferenceproceedingsthat aretypicallynotconsideredinthelifesciences.IfAIapproachesorigi-nallyreportedinconferenceproceedingshavepotentialforlifescience applications*AILSCI*invitesre-publicationofsuchcontributionsinmod-ifiedformas*ConceptualAnalysis*or*Methods&Protocols*papers.Insuch cases,thelifesciencerelevanceofthereportedalgorithmormethod shouldbebrieflydiscussedinthemanuscriptandadditionalexplana-tionsand/orasummaryshouldbeprovidedthatrendertheworkacces-sibletoaninterdisciplinarylifescience-orientedaudience.

Wealsonotethat*Methods&Protocols*manuscriptscoverstudiespub-lishedas*ApplicationNotes,Software*,orequivalentreportspublishedby otherjournals.

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**Educationalandcommunityefforts**

*AILSCI*alsoofferstheopportunitytopublishthematic*ArticleCollec-tions*resultingfromcommunityinitiativessuchasmethodevaluations orblindtestpredictions.*ArticleCollections*mayinvolveallof*AILSCI’s* manuscriptcategoriesandareintroducedbyinvited*Editorials*.Thisop-portunityisalsoavailabletoscientificorganizationsorsocietiesforpub-lishingpapersoriginatingfromconferencesororganization-specificini-tiatives.

Foranevolvingscientificcommunityengagingininterdisciplinary AIresearch,payingattentiontoeducationalefforts,atdifferentlevels,is alsohighlyrelevant.Forexample,anewteachingconceptintegratingAI andlifesciencecomponentsmaybepresentedasa*ConceptualAnalysis.* Moreover,educationalviewpointsmightalsoaimtoprovideguidance foraddressingcriticalissuesinafast-movingscientificfieldsuchas,for example,thegapbetweenhypeandrealityinAIapplications,forwhich *ControversialViews*provideanexcellentdiscussionforum.

**Openaccessandpreprintservers**

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Welookforwardtoreceivingmanyinterestingandthematically diversecontributionsthatwillhelptofurthersupportthedevelopment ofAI-driveninterdisciplinaryscienceinvariousways!

**DeclarationofCompetingInterest**

Theauthorsdeclarethattheyhavenoknowncompetingfinancial

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