

A template for the *arxiv* style

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Abstract

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1 Headings: first level

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1.1 Headings: second level

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^{*}Use footnote for providing further information about author (webpage, alternative address)—not for acknowledging funding agencies.

Pellentesque tincidunt purus vel magna. Integer non enim. Praesent euismod nunc eu purus. Donec bibendum quam in tellus. Nullam cursus pulvinar lectus. Donec et mi. Nam vulputate metus eu enim. Vestibulum pellentesque felis eu massa.

1.1.1 Headings: third level

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2 Examples of basic functions

\autoref: See section 2.
\cref: See section 2.

2.1 Equation

\autoref: See Equation 1.
\cref: See eq. (1).

$$\frac{\alpha_i(t) a_{ij}^{w_t} \beta_j(t+1) b_j^{v_{t+1}}(y_{t+1})}{\sum_{i=1}^N \sum_{j=1}^N \alpha_i(t) a_{ij}^{w_t} \beta_j(t+1) b_j^{v_{t+1}}(y_{t+1})} \quad (1)$$

2.2 Citations

Here is an example usage of the two main commands (`citet` and `citep`): Some people thought a thing [Kour and Saabne, 2014a, Hadash et al., 2018] but other people thought something else [Kour and Saabne, 2014b]. Many people have speculated that if we knew exactly why Kour and Saabne [2014b] thought this...

2.3 Footnote

Here is how you add footnotes.¹

2.4 Figures

`\autoref`: See Figure 1 and Figure 2a.

`\cref`: See fig. 1 and fig. 2a.



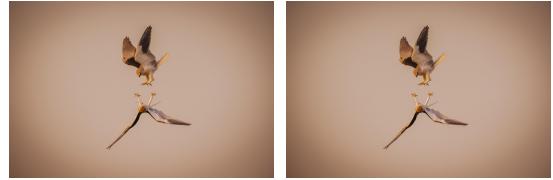
Figure 1: Sample figure caption

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¹Sample of the first footnote.



(a) Subfigure Caption



(b) Subfigure Caption



(c) Subfigure Caption



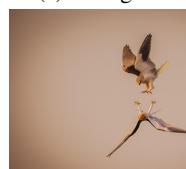
(d) Subfigure Caption



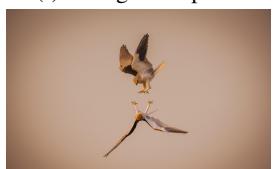
(e) Subfigure Caption



(f) Subfigure Caption



(g) Subfigure Caption



(h) Subfigure Caption

Figure 2: Multiple image placement caption

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2.5 Tables

`\autoref`: See Table 1.

`\cref`: See table 1.

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Table 2: Sample table title

Symbol	Meaning
\mathcal{D}_i	Distribution of domain i ($i=0:n$)
\mathcal{Z}_i	Feature distribution induced by \mathcal{D}_i
$r(\cdot; \phi)$	Feature extractor, $\mathbb{X} \rightarrow \mathbb{Z}$
$k(\cdot; \varphi)$	Label head (classifier), $\mathbb{Z} \rightarrow \mathbb{Y}$.
$f(\cdot; \theta)$	Witness network; $g = f_T - f_0$.

Table 1: Sample table title

Part		
Name	Description	Size (μm)
Dendrite	Input terminal	~ 100
Axon	Output terminal	~ 10
Soma	Cell body	up to 10^6

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amet, egestas sed,
leo. Praesent feugiat sapien aliquet odio. Integer vitae justo. Aliquam vestibulum fringilla lorem. Sed neque lectus, consectetur at, consectetur sed, eleifend ac, lectus. Nulla facilisi. Pellentesque eget lectus. Proin eu metus. Sed porttitor. In hac habitasse platea dictumst. Suspendisse eu lectus. Ut mi mi, lacinia sit amet, placerat et, mollis vitae, dui. Sed ante tellus, tristique ut, iaculis eu, malesuada ac, dui. Mauris nibh leo, facilisis non, adipiscing quis, ultrices a, dui.

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2.6 Lists

\autoref: See item I..

\cref: See item I..

- Lorem ipsum dolor sit amet
- consectetur adipiscing elit.
- Aliquam dignissim blandit est, in dictum tortor gravida eget. In ac rutrum magna.

I. Lorem ipsum dolor sit amet

II. consectetur adipiscing elit.

III. Aliquam dignissim blandit est, in dictum tortor gravida eget. In ac rutrum magna.

2.7 Algorithm

\autoref: See algorithm 1.

\cref: See algorithm 1.

Algorithm 1: Euclid's Algorithm for GCD

Input: a, b
Output: $\gcd(a, b)$
while $b \neq 0$ **do**

$$\left[\begin{array}{l} r \leftarrow a \bmod b; \\ a \leftarrow b; \\ b \leftarrow r; \end{array} \right]$$

return $a;$

3 Examples of Theorem Environments

\autoref: We can see Theorem 3.1, Theorem 3.2, Theorem 3.3, Theorem 3.4, Theorem 3.5, Theorem 3.6, Theorem 3.7, Theorem 3, and Theorem 3.

\cref: We can see theorem 3.1, lemma 3.2, corollary 3.3, proposition 3.4, definition 3.5, condition 3.6, example 3.7, section 3, and section 3.

Theorem 3.1 (Pythagoras). *If a triangle is right-angled, then the square of the hypotenuse equals the sum of the squares of the other two sides.*

Lemma 3.2. *For any real numbers a and b , we have $(a + b)^2 \geq 0$.*

Corollary 3.3. *Every real number has a non-negative square.*

Proposition 3.4. *The set of prime numbers is infinite.*

Definition 3.5 (Metric Space). A metric space is a pair (X, d) where X is a set and $d : X \times X \rightarrow \mathbb{R}$ satisfies positivity, symmetry, and the triangle inequality.

Condition 3.6 (Stability). If $|f(x)| \leq \alpha|x|$ with $0 < \alpha < 1$, then the system is stable.

Example 3.7. Let $f(x) = \frac{1}{2}x$. Then the condition of stability is satisfied.

Remark. Conditions are often used in optimization and control theory.

Note. The proof of Pythagoras can be done geometrically or algebraically.

Proof. It follows directly from the axioms of d . \square

References

George Kour and Raid Saabne. Real-time segmentation of on-line handwritten arabic script. In *Frontiers in Handwriting Recognition (ICFHR), 2014 14th International Conference on*, pages 417–422. IEEE, 2014a.

Guy Hadash, Einat Kermany, Boaz Carmeli, Ofer Lavi, George Kour, and Alon Jacovi. Estimate and replace: A novel approach to integrating deep neural networks with existing applications. *arXiv preprint arXiv:1804.09028*, 2018.

George Kour and Raid Saabne. Fast classification of handwritten on-line arabic characters. In *Soft Computing and Pattern Recognition (SoCPaR), 2014 6th International Conference of*, pages 312–318. IEEE, 2014b.
doi:10.1109/SOCPAR.2014.7008025.

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Supplementary Material

A Rationale

\autoref: See Appendix A.

\cref: See appendix A.

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