

# 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.

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#### 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.<sup>1</sup>

## 2.4 Figures

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

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

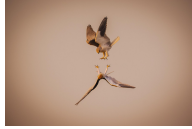


Figure 1: Sample figure caption

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Figure 3: Sample figure caption

<sup>1</sup> Sample of the first footnote.

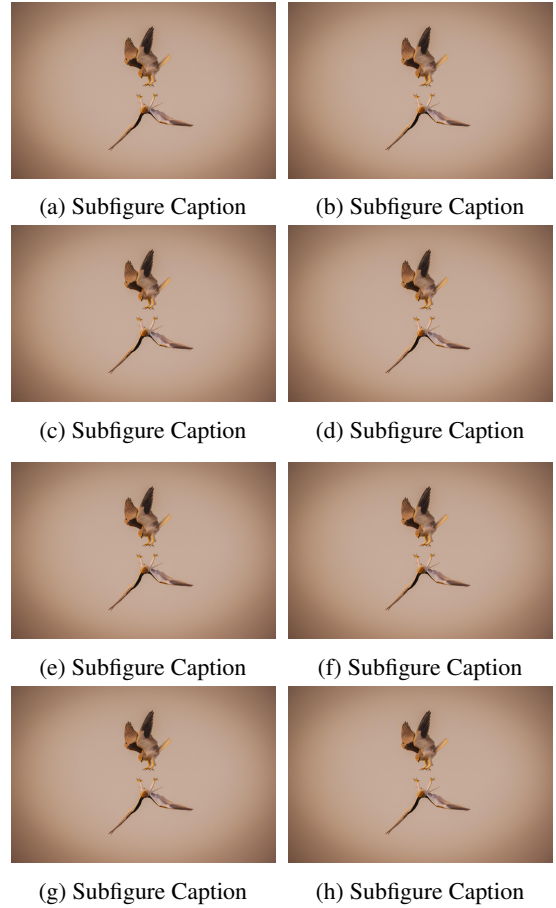


Figure 2: Multiple image placement caption

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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 ( $\mu\text{m}$ )
Dendrite	Input terminal	$\sim 100$
Axon	Output terminal	$\sim 10$
Soma	Cell body	up to $10^6$

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## 2.6 Lists

\autoref: See item I..

\cref: See item I..

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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.

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### Algorithm 1: Euclid's Algorithm for GCD

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**Input:**  $a, b$

**Output:**  $\text{gcd}(a, b)$

**while**  $b \neq 0$  **do**

$r \leftarrow a \bmod b;$

$a \leftarrow b;$

$b \leftarrow r;$

**return**  $a;$

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## 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  $d$ . □

## 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.

# A template for the *arxiv* style

## Supplementary Material

### A Rationale

\autoref: See Appendix A.

\cref: See appendix A.

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