Electronic Supplementary Material (ESI) for Nanoscale.

Supplementary Information

Acquiring structural and mechanical information of the fibrous network through deep learning

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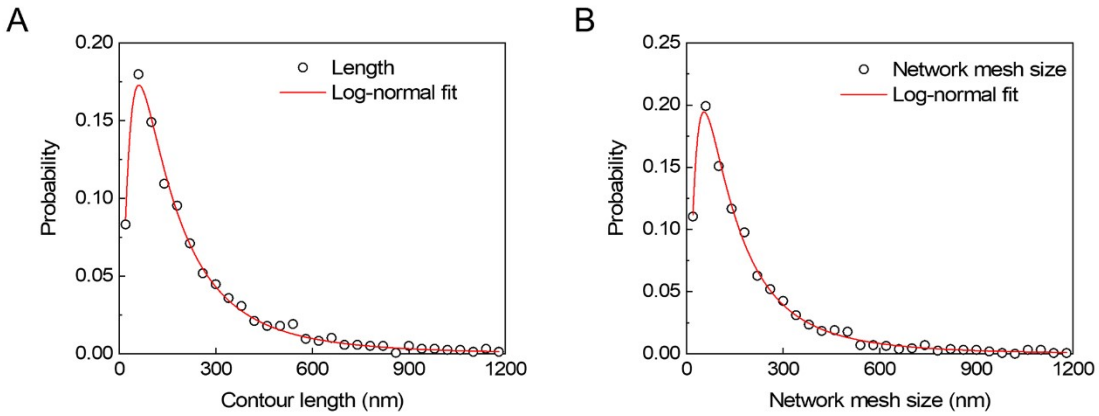

Figure S1 The log-normal distribution fitting of contour length (A) and network mesh size (B).

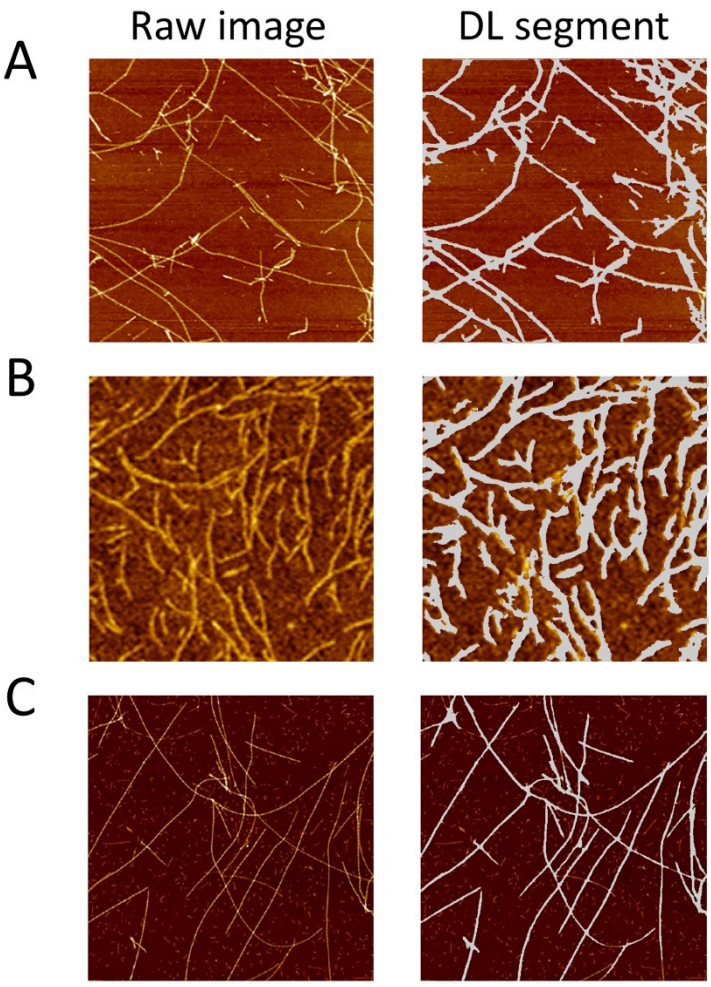

Figure S2 Semantic segmentation of other kinds of fiber network images. (A) Self-assembly fibrils of a biosynthetic amino acid polymer synthesized by the yeast *Pichia pastoris*, reported by C. Charbonneau *et al*.[1] (B) Amyloid-β peptide, $A\beta_{12-28}$, reported by Y. C. Lin *et al.*[2] (C) Apoferritin amyloid fibrils, reported by R. Jurado *et al*.[3]

Table S1 The log-normal distribution parameters of contour length and network mesh size.

$$f(L,\mu,\sigma) = \frac{A}{L\sigma\sqrt{2\pi}} e^{-\frac{(\ln(L)-\mu)^2}{2\sigma^2}}$$

	A	σ	μ
Contour length	39.85	0.95	5.02
Network mesh size	39.99	0.95	4.91

References

1. C. Charbonneau, J. M. Kleijn and M. A. C. Stuart, *Acs Nano*, 2014, **8**, 2328-2335.
2. Y. C. Lin, E. J. Petersson and Z. Fakhraai, *Acs Nano*, 2014, **8**, 10178-10186.
3. R. Jurado, J. Adamcik, A. Sanchez-Ferrer, S. Bolisetty, R. Mezzenga and N. Galvez, *Biomacromolecules*, 2021, **22**, 2057-2066.